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Michael Devitt Woods

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An analysis of institutional engagement: Perceptions of faculty, staff and administration in the College of Agriculture at Iowa State University

By
Michael Devitt Woods

A dissertation submitted to the graduate faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Agricultural Education
Major Professor: Dr. B. Lynn Jones

Iowa State University
Ames, Iowa
2001

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For the Major Program

Signature was redacted for privacy.

For the Graduate College
To my family,
who encouraged me to ask questions
and
to my friends,
who showed me how I might answer some of them.
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ABSTRACT

Significant movement is afoot in higher education around a reinvigoration of civic engagement as well as efforts to reform the 'ivory tower' from societal isolation and irrelevance. This movement is based on the assumption that land grant institutions should play a key role in sustaining our democracy and collaborating to solve complex societal problems. Against this backdrop, in February 1999, the Kellogg Commission on the Future of State and Land-Grant Universities issued the third of its reports, Returning to Our Roots: The Engaged Institution (NASULGC, 1999), calling for greater institutional engagement with society. Specifically the Commission concluded that it is time to go beyond outreach and service to “engagement.” By engagement, the commission refers to “institutions that have redesigned their teaching, research, and extension functions to become even more sympathetically and productively involved with their communities” (NASULGC 1999b, p vii).

In light of the Kellogg Commission report, the purpose of this research project was to assess the organizational structure in order to address leadership issues needed to facilitate the engagement agenda. The Iowa State University College of Agriculture internal stakeholders (faculty, staff and administrators) were used as a starting point to better understand the process of building and maintaining institutional engagement. The study had three specific objectives: 1) to build and apply a conceptual framework based on organizational adaptation theory, literature and the researcher's experience, 2) to empirically describe, by applying the conceptual framework, how college's of agriculture, build and maintain an engagement agenda; and 3) to seek commonalities across these descriptions that will add in advancing the engagement agenda within other disciplines in higher education. In order to meet the purpose and objective of this study the following research questions were asked:

1. Is there a clear sense of what engagement means among various institutional internal stakeholders (faculty, staff and administration)?
2. Do college of agriculture internal stakeholders have a clear commitment to the basic idea of engagement?
3. Is there strong support from internal stakeholders for infusing engagement into the teaching, research and outreach activities of the college of agriculture?
1

CHAPTER 1
INTRODUCTION

1.1 A Call for Institutional Engagement

The amazing transformation of a caterpillar into a beautiful butterfly is one of the most striking examples of metamorphosis. Now higher education, as several times in the past, has been called upon to follow the caterpillar's example and shed its skin to adjust to its new surroundings. Transformation, for the animal kingdom and for organizations such as colleges and universities, is a natural part of growth and survival. Like the caterpillar preparing for its final molt, higher education leaders must create the capacity for adaptation in their institutions.

As educators seek to meet the changing needs of their internal and external stakeholders, they must be prepared to not only enhance institutional quality, but also ensure their institution's survival. Today colleges and universities are being increasingly called upon to emerge from their protective cocoons, and prepare to face challenges, possibilities, and choices that will inevitably drive their metamorphosis. While higher education institutions have undergone substantial change in recent years, the transformations they now face will be far more revolutionary than evolutionary; and will occur at a much faster pace (Leslie & Fretwell, 1996).

Not unlike the experience of the healthcare and utility industries of the last decade, conservative higher educational cultures will be forced to change by economic and environmental forces, forces that will push higher education into a new age of information, consumer-driven markets, and "industry-wide" consolidation (Dill & Sporn, 1995). New information technologies, consumerism, and increasing resource depletion will continue to be the most fundamental forces driving this change.

Like the healthcare industry, higher education has been called upon to move from producer-driven to a consumer-driven marketplace. Likewise, in response to these same market demands, Institutions will need to revise academic programs that both emphasize quality as well as boost productivity. Institutions of higher learning today need to listen more earnestly to the growing frustration voiced by a society becoming increasingly concerned with the unresponsiveness of higher education. Society today is calling for redesigning modes of teaching, research and outreach so as to become far more "sympathetically and productively involved with their communities" (NASULGC 1999a, p. vii).
The ability of an institution to thrive, or even survive, in this context will depend on its ability to make profound internal changes, and to become considerably more adaptive and responsive to changing external conditions. But, as many have come to realize, creating meaningful change is perhaps the greatest challenge of all in higher education. Change in most institutions is inhibited by traditional cultures, reward structures and decision-making practices that have historically led to an ever-increasing specialization and fragmentation in both academia as well as in business activities (Boyer, 1990; Dill, 1994; Keller, 1983). Baldridge (1983) contends “curricula and administrative practices alike have suffered from divided loyalties and narrow frames of reference that have combined to make coordination and coherence in direction difficult to achieve (p. 87).” The inescapable result has been inefficiencies, duplication and a reduction in the institution’s ability to adapt and respond to change.

Against this backdrop, in 1995, convinced that the United States and its state and land-grant institutions were facing structural changes as deep and significant as any in history, the National Association of State Universities and Land-Grant Colleges sought the support of the W.K. Kellogg Foundation in an effort to examine the future of public higher education. The Foundation, already funding several major institutional change initiatives, responded to this request promptly and generously. It agreed to support a multi-year national commission to rethink the role of public higher education in the United States and to lend its name to the effort. The third report of the Kellogg Commission on the Future of State and Land-Grant Universities, “Returning to Our Roots: The Engaged Institution” (NASULGC 1999a) addressed the historic land-grant mission of outreach and argued that these institutions must redefine their public service responsibilities in the new century. Specifically, the Commission concluded that it is time to go beyond outreach and service to the more powerful concept of “engagement.” By engagement, the commission is referring to “institutions that have redesigned their teaching, research, extension and service functions to become even more sympathetically and productively involved with their communities” (NASULGC 1999a, p. vii).

Intrinsic to the engagement ideal of the Commission is the commitment to sharing and reciprocity. The Commission envisions partnerships as two-way streets, defined by a mutual respect among all the partners for what each may bring to the table. The Commission declared, “An institution that responds to these imperatives can properly be called...an engaged institution” (NASULGC 1999a, p. vii).

While a large number of institutions have reorganized and embraced the “Engaged Institution” initiative, many still lack a fundamental understanding concerning the new requirements
for faculty, staff and administration. What this inevitably all leads to is a growing discrepancy between what external stakeholders need for success and what institutions actually deliver. The Kellogg Commission proposed several common themes that are needed to ensure success of the engagement initiative. These include:

1. A clear commitment to the basic ideas of engagement.
2. Strong support for infusing engagement into curriculum and teaching missions.
3. Remarkable diversity in approaches and efforts.
4. The importance of defining “community.”
5. The significance of leadership.
6. A new pledge to funding the process.
7. Accountability lodged in the right places.

Given the timeliness of the Kellogg Commission report, it will be the purpose of this research to use a specific population—the Iowa State University College of Agriculture faculty, staff and administration—as a starting point to better understand the process of building and maintaining the engagement initiative in general.

1.2 Context of the Study

Changing a university’s internal dynamics and asking higher education to reinvent itself to meet the external challenges will certainly demand many new roles, relationships, skill sets, and operating methods. In recent years, colleges and universities have responded with a full range of strategic change initiatives—including total quality management, strategic planning, re-engineering, and program review. These initiatives have produced mixed results at best (Clark, 1998; Dill & Sporn, 1995; Gumport & Sporn, 1999; Leslie & Fretwell, 1996; Slaughter & Leslie, 1997). Often these approaches simply resulted in small incremental changes or further degenerated into debilitating across-the-board cost reduction programs (Leslie & Fretwell, 1996). Standard change methods frequently failed to bring about the fundamental and long-lasting change necessary to meet external challenges (Baldridge, 1983). Scholars and administrators caution about disparities between external demands and current responses to change (Becher & Kogan, 1992; Cameron, 1984; Clark, 1998; Dill & Sporn, 1995; Leslie & Fretwell, 1996; NASULGC, 1998, 1999, 2000; Peterson & Dill, 1997; Slaughter & Leslie, 1997; Sporn 1995).

There are a number of factors driving the requirement for institutional change. One challenge higher education faces is the growing public frustration with what is seen to be its unresponsiveness.
Or as the Kellogg Commission (NASULGC, 1999a) declared "at the root of the criticism is a perception that higher education is out of touch and out of date" (p. 9). Another contributing part of the problem is that although "society has problems, higher education institutions have disciplines" (NASULGC, 1999a, p. 9). An additional constraint is that the role of government and its relationship with institutions of higher education has been shifting (Almanac, 1996). Furthermore, the increasing pervasiveness of technology in many different areas of public and private life is having a major impact on how universities conduct business. (NASULGC, 1998a). Finally, socioeconomic considerations and the economy are forcing state governments to reconsider how to allocate funds to higher education (Layzell & Caruthers, 1995). In the end, according to a number of researchers (Argyris, 1982; Balderston, 1995; Barrow, 1993; NASULGC 1998, 1999, 2000) what all these complaints and considerations add up to is a general perception that, despite all the resources and expertise available on college and university campuses, the institutions are not well organized to bring them to bear on stakeholder problems in a coherent way.

At this point a number of other issues present themselves. These include: demographic changes, enrollment pressures, financial constraints, and demands for affordability and cost containment. Beyond these issues are even broader problems in the guise of urgent requests from policymakers for solutions to national and international problems of all kinds (NASULGC, 1999a). Likewise, globalization has led to increased mobility of faculty, students and staff, and to a stronger need to standardize services and performance (GASEPA, 1998). All these forces are leading to an institutional environment dominated by claims for more public accountability and greater responsibility to be taken by our institutions of higher education (Berdahl & McConnell, 1994; Clark, 1998; Dill & Sporn, 1995b; Ewell, 1991; GASEPA, 1998; Gumport & Sporn, 1999; Leslie & Fretwell, 1996; NASULGC, 1998, 1999, 2000; Rhoades, 1995; Slaughterer & Leslie, 1997; Trow, 1998).

These new environmental demands are triggering internal responses from universities and colleges that are centering around restructuring, retrenchment, reengineering, total quality management, strategic planning, globalization, and institutional engagement. In general, these reactions indicate attitudinal changes on issues as wide-ranging and profound as existence, resources, structure, power, mission, and meaning. Scores of researchers maintain that academic departments, programs, faculty, administration, and leadership, as well as students and other stakeholders are part of a new organizational design deliberation for better efficiency and effectiveness (Clark, 1998; Dill & Sporn, 1995b; GASEPA, 1998; Gumport & Sporn, 1999; Leslie & Fretwell, 1996; NASULGC, 1998, 1999, 2000; Slaughter & Leslie, 1997).
The process of advancing this engagement initiative can be further elaborated by an analogy. Consider a small ship, launched with the usual high hopes and great expectations. Yet there was also the usual uncertainty. As expected problems arose that threatened the progress and success of the journey. The ship and crew found that the provisions supplied to maintain their very existence were woefully inadequate to meet the challenges of their unknown future. Changes or reinterpretations of their itinerary ultimately give the trip new missions even new meanings. Resources were being depleted and new resources discovered. It was anticipated that the structure of the ship and its management system including the captain and crew would be altered by events of a long journey. Intermittent power losses were regular occurrences. Whatever the problem, the ship might easily drift aimlessly and be marooned if the captain or the crew fails to recognize and see to the maintenance of the Six Essential Elements of Human Action proposed by Terry (1993) (existence, resources, structure, power, mission, and meaning). Institutions of higher education confronted with the engagement initiative will certainly find themselves adrift for all the same critical reasons.

The study reported in this dissertation is concerned with the ability of Colleges of Agriculture to address the human actions needed to become what the Kellogg Commission (NASULGC, 1999a) has come to call an “Engaged Institution.” Research has only recently begun concentrating in this area. To date there is little coherent literature available.

1.3 The Engagement Agenda

The use of the term engagement is problematical for it has come to have multiple meanings that if used interchangeably, especially in the context of this inquiry, can cause much confusion. In one connotation engagement means the mere capacity to endure or survive with no implications of growth or change. In this sense the word is often used in referring to an old person who continues to live with unusually physical vigor. Here there is no implication that (s)he seeks new experiences or alters any lifelong habits to adjust to the changing worldly conditions. Quite differently engagement can also mean the capacity to grow and to adapt to new social demands. The history of American higher education shows that most State Universities and Land-Grant Colleges have been extremely vital institutions in our first sense (NASULGC, 2000b). Alive they may be, but these venerable centers of learning often exhibit little vitality when it comes to making persistent efforts to change their purposes and practices as they relate to the changing character of American society and its emerging needs.
The meaning and emphasis of the word engagement in this study is solely on the capacity of an institution to exist at a high level of efficiency simply by carrying on its ordinary day-by-day activities as a college or university. This study will be primarily concerned with the capacity of the Iowa State University College of Agriculture to continuously reorganize its programs and to redistribute its resources in such ways as to encourage the most promising innovations in the theory and the practice of institutional engagement. Another significant objective will be to discover those factors in the life of an educational community that are most conducive to the maintenance of institutional engagement over the longest period of years. In simple terms, the purpose here is to discover the forces within a College of Agriculture that will tend to preserve and nourish a readiness to change as it faces new social conditions, new types of stakeholders, and new societal developments.

At no point in the history of American higher education could such a research endeavor have been timelier. In the first place, the swift and ever-accelerating changes in the conditions of life at home and abroad will require important related innovations in the programs of our better institutions. Universities whose responsibility it is to prepare new generations to live and to work amid the ever-changing world of human events. Second, while some colleges and universities are satisfied to continue in their traditional ways until the "new" practices have proven their worth, many external developments are currently forcing internal alterations of structures and functions that may leave many institutions permanently out of it. Third, there is growing evidence that the present-day social demands are combining with institutional self-interests to insure that most colleges and universities will be forced to keep their programs attuned to the rapidly emerging needs of society. If institutional engagement is to be accomplished in an orderly, sound and productive manner, the ideas and energies of the entire academic community must become totally involved.

The two major groups within higher education—the internal (i.e. faculty and staff) and external stakeholders (i.e. community groups, etc.)—are now more than ever demanding a larger role in the determination of institutional policies and practices. It appears that external stakeholders believe that state and land-grant universities as a whole are not sufficiently in touch with the conditions of life in the circumambient society (NASULGC, 1999a). Stakeholders today are firmly convinced that the entire range of purposes of American higher education, of its programming, of its teaching, of its relationship to the community—all the key features of the higher education enterprise—are urgently in need of reexamination, reevaluation and modification. Many faculty members are raising similar questions and proposing changes in their roles in academy. They feel, for example, the faculty reward system does not match the full range of academic functions, and that professors are
often caught between competing obligations (Boyer, 1990). Regardless of the validity of any of these claims, an unprecedented amount of energy must be mustered in institutions that expect to come to successfully get a grip on most of the prevailing issues and problems. Business-as-usual procedures will no longer be adequate tools in helping adapt universities and colleges to the complexity of society and the engagement initiative.

1.4 Conceptual Framework

In defining the meaning of institutional engagement, a central issue arises that affects all further considerations about how engagement should be implemented in practice. The issue is this: "Is engagement a distinct activity or set of activities, comparable to the conventional categories of research, teaching and outreach?" or "Is engagement an integral dimension of all the professional work of faculty, staff and administrators, a distinguishing feature of the university as an engaged institution?" Under the first meaning, engagement is separate from other central university activities and is assessed through independent measures of performance; under the second meaning, engagement motivates and pervades all university activities and is assessed through its impact on the full range of these activities.

The work of this research project is predicated on the second, more comprehensive, meaning of engagement: the researcher defined engagement as an institutional commitment to public purposes and responsibilities that is expressed in the full range of university activities. The university does not do engagement; the university is a civically engaged institution. The challenge is to spell out how engagement makes a difference in research, scholarship, teaching, community outreach, and other professional practice. In practical terms, the question boils down to this: "How is the professional work of faculty, staff and administration different in an engaged institution compared to other institutions of higher education that produce instructional products for their customers and marketable research for their clients?" The researcher began to answer this question by identifying the public purposes and responsibilities that are encompassed within the university’s civic mission.

In every phase of its development, American higher education assumed the responsibility to fulfill a civic purpose. The practical expressions of this purpose changed with the times, responding to urgent public needs under different historic conditions. Yet one persistent theme has recurred: the idea that central to the civic mission of state universities and land-grant colleges is the strengthening of democracy. Civic engagement means an institutional commitment to public purposes and
responsibilities intended to strengthen a democratic way of life in the rapidly changing Information Age of the 21st century. These public purposes and responsibilities are the following:

1. **Access to Learning**: to assure the highest quality undergraduate, graduate, and lifelong learning opportunities to students regardless of age, gender, race, religion, ethnicity, income, or disability as part of connected learning experiences that extend from K-12 schooling to collegiate education, professional training, and throughout a lifetime;

2. **Enhanced Diversity**: to promote the inclusion and participation throughout the university of people with diverse backgrounds and voices, nourishing a vigorous pluralism in American society;

3. **Empowered Citizens**: to develop among all students the civic competence and critical thinking that empower them as effective citizens in their localities, states, nations and in a global environment;

4. **Responsible Leadership**: to develop among people from varied backgrounds the capacity for responsible leadership in private, associational, and public organizations and institutions;

5. **New Knowledge**: to foster new knowledge and creative expression in the arts, sciences, and humanities as vital manifestations of an active life of the mind and spirit;

6. **Public Research**: to encourage faculty research and other professional work concerned with the conditions and problems of public life that affect the future of democratic societies and politics at home and around the world;

7. **Social Well-being**: to contribute through the discovery, dissemination, and application of knowledge to the economic and social well-being of communities locally, regionally, nationally, and internationally;

8. **Trusted Voice**: to provide citizens and leaders with dependable knowledge and reliable information for reaching responsible public judgments and decisions, and so to serve as a trusted voice in public debates over controversial issues;

9. **Civic Values**: to provide accessible sites and intellectual leadership for public deliberation about the meaning and importance of civic values and civic participation in the face of increasing globalization, corporatization, and civic disengagement;

10. **Community Partnership**: to collaborate with diverse groups, organizations, institutions, and communities as mutually helpful partners in furthering shared democratic purposes;

11. **Self-Governance**: to maintain the university's collegial self-governance and autonomy from special interest as necessary for the accomplishment of public purposes;
12. **Public Accountability:** to remain accountable for serving well the people of its state by pursuing actively the full range of its public purpose.

Joining these purposes and responsibilities with the changing and dynamic nature of higher education discussed above forces college faculty, staff and administrators to continuously anticipate needed adaptations to the ever-changing landscapes of higher education. By constantly adapting to society's complex environments, higher education can better meet the needs of their users. For example, by anticipating society's growth, state and land-grant universities have helped guide the United States economy from its agrarian roots through the industrial revolution, the space age, the information age, and now to today's emerging age of telecommunications.

The dynamic nature of higher education is not unique. A growing scientific movement has been looking at other such dynamic systems. This movement is known as "complexity research" (Waldrop, 1992). Complexity and the study of complex adaptive systems (Holland, 1995) seek to understand the commonalities among self-sustaining and self-organizing systems.

Higher education can be seen as a complex adaptive system. It is dynamic and it also evolves. It is self-organizing, with no central enforcement component. Rothblatt and Wittrock (1993) sum up the complex nature of higher education when they state:

Higher education encompasses battalions of topics and problems for analysis. Elite formation; the professions both liberal and new; the State; labor markets; science policy and research; the organization, direction and control of schools, institutes, colleges and universities; the academic profession; culture high and low; definitions of creativity and competence; the machinery of selection and the measurement and reward of merit and the study of occupations. (p. 3)

Higher education also meets the specific criteria set forth in complexity research (see Holland 1995, p. 10) in that it is composed of a large number of independent agents that take on diverse forms, and share information.

Complexity research and Holland's notion of "agents" with their "internal models" and "building blocks" provides the foundation for the conceptual framework developed for this investigation. The framework, as seen in figure 1-1, looks at the input (detectors) to an organization, the processes (rules) used by the organization to build and maintain institutional engagement, and the output of the organization (effectors) in the College of Agriculture environment. The framework further aids in understanding the various agents impacting the engagement agenda within higher education as well as the methods employed in this research.

Holland (1995) established a "performance system" (p.87) that describes an agent (organization) in a complex adaptive system (here the College of Agriculture faculty, staff and
administration). This system has a set of detectors for gathering information from the environment, a set of rules for reacting to the environmental information, and a set of effectors for manipulating (controlling) the environment. In this framework, the researcher's experience and the literature have been used to further refine detector types.

![Conceptual Framework Diagram]

**Figure 1-1: Conceptual Framework**

Holland (1995) established a "performance system" (p.87) that describes an agent (organization) in a complex adaptive system (here the College of Agriculture faculty, staff and administration). This system has a set of detectors for gathering information from the environment, a set of rules for reacting to the environmental information, and a set of effectors for manipulating (controlling) the environment. In this framework, the researcher's experience and the literature have been used to further refine detector types.

As will be shown, this framework of detectors, rules and effectors matches the dynamic nature of higher education quite well. It further provides a useful structure for building comparable descriptions of organizations while allowing for the latitude necessitated by the unexplored nature of the engagement initiative. One of the objectives of this study was to explain and ground this conceptual frame in theory, literature and experience; then to apply this framework to higher education (College of Agriculture) processes that impact the basic ideas of engagement.

### 1.5 Institution Explored

Iowa State University, located in Ames, Iowa, is one of the nation's oldest and most respected land-grant universities and currently enrolls over 26,000 students with just under 4,000 in the College of Agriculture. Chartered by the Iowa General Assembly in 1858, the Iowa Agricultural College and Model Farm was designated the nation's first land-grant college when Iowa became the first state to
accept the terms of the federal Morrill Act in 1862. The college opened in 1868-69 and a class of 26 was graduated at the first commencement in 1872.

Iowa State pioneered the establishment of agricultural curricula, was the first state institution to found a veterinary school, and helped move engineering from a small and narrow profession to its present key position in our industrialized society. Coeducational from its beginning, Iowa State provided leadership in domestic economy (today known as Family and Consumer Sciences). The modern Cooperative Extension Service system grew out of early Farmers' Institutes organized by Iowa State in the late 1800s.

Iowa State University's continuing aspirations to become the premier land-grant university in the nation is the focus of the five-year strategic plan that is now guiding Iowa State into the 21st century. Six university-wide goals (as described below) guide the university and its individual units as they implement strategies to achieve specific objectives of their own. The goals are:

- Strengthen undergraduate teaching, programs, and services.
- Strengthen graduate, professional, and research programs.
- Strengthen outreach and extension efforts.
- Sustain and enhance an intellectually stimulating environment and a supportive university community for all students, faculty, and staff.
- Establish international leadership in the integration and effective use of information technology and computation services.
- Strengthen initiatives to stimulate economic development, with a special emphasis on environmental stewardship and enhancing human resources and the quality of life.

1.6 Institutional Engagement and a College of Agriculture

The recent emphasis of the Kellogg Commission (NASULGC, 1999a) to redesign state and land-grant universities teaching, research and outreach functions to become more engaged with their communities highlight: the need for better information on building and maintaining institutional engagement within individual colleges. The Kellogg Commission's call to go beyond outreach and service emphasizes the need for Colleges of Agriculture to be organized and prepared.

Leadership to create an engagement agenda is crucial. Engagement will not develop by itself, and it will not be led by the faint of heart (NASULGC, 1999a, p. ix).

As more stakeholders, in the case of this research project, faculty, staff and administration, look to the engagement initiative to address the growing public frustration with higher education, institutional
leadership within Colleges of Agriculture must be able to build and maintain higher quality institutional programs and services to meet the ever increasing expectations of society.

College faculty, staff and administration is one obvious starting point for the larger investigation of the building and maintaining of expanded institutional engagement. As preliminary research in the field of organizational adaptation and higher education reveals, internal stakeholders (i.e. faculty, staff and administration) are faced with broader spans of control, more fragmented organizational structures, and the need to deliver results that require cross functional and stakeholder collaboration (Champy & Hammer, 1993; Galpin, 1996; Kotter, 1990, 1996; Senge, 1990; Weisbord, 1992). These organizational change scholars contend that internal stakeholders (i.e. faculty, staff and administration) are particularly relevant to the larger question of organizational change because they:

1) Provide strategic vision by creating and communicating a vision of the future linked to strategies for leveraging high-value stakeholder opportunities, and energize people through advantageous executions of the vision.

2) Orchestrate organizational resources by leveraging relationships, assembling diverse, high-powered, customer-focused teams, and clearly defining roles and objectives.

3) Influence organizational strategy by communicating strategic information upward, downward and outward, advocating divergent solutions when appropriate, identifying emerging trends and marketplace dynamics, and influencing new directions.

4) Coach strategically by keeping the focus on the “right” opportunities and on ways of achieving strategic fit, competitive and cooperative advantages, institutional impact, and by demonstrating effective institutional engagement skills.

5) Diagnose performance by analyzing individual and team trends to identify potential tactical shifts or needed skill improvements conducting constructive performance reviews, and aligning individual and team trends with key institutional goals and priorities.

6) Select high-potential employees by understanding the competencies necessary for marketplace success, recruiting and selecting against those competencies, and constructing development plans for new hires.

7) Leverage institutional resources by staying up to date and proficient in stakeholder-relevant needs, appropriately using institutional resources to facilitate the process of meeting the needs of institutional stakeholders.

8) Demonstrate personal commitment by appropriately influencing key decision makers, elevating issues, negotiating solutions, and solving problems.
The overall purpose of this study, as stated previously, was to investigate the building and maintaining of a culture of institutional engagement within higher education, specifically using College of Agriculture faculty, staff and administration as its starting point. One of the specific objectives within this purpose was to offer a logical approach for dealing with institutional change for building and maintaining institutional engagement by addressing the learning needs of both individuals and groups in the context of an "open and complex" institution. This logical approach could add a level of precision concerning the process of creating a capacity for institutional engagement while addressing faculty, staff and administrator issues to facilitate need institutional change. Such internal stakeholder issues are valuable not only in meeting the leadership needs of the ISU College of Agriculture, but also to other institutions and disciplines seeking to build and maintain institutional engagement. By understanding the processes in a specific population, benchmarks can be created and explored, and a systematic series of studies can be made to explore the larger activities related to institutional engagement in general.

1.7 Benefits of Descriptions

There is a chronic need for advanced institutional engagement analyses from the perspectives of both those who lead and work in the colleges or universities and those who live in a society that is significantly influenced by the institutions' efforts. Those stakeholders frozen inside a college or university may welcome a newer enlightened understanding of institutional engagement, because for the most part higher education seems to be particularly resistant to influence and adaptation (Bess, 1984; Simsek & Louis, 1994). The dynamics of higher education is often difficult to understand, and any framework that can help bring order to the complexity of these institutions will be greatly appreciated.

The benefits of this research project were to provide an initial analysis of institutional engagement and to offer a preliminary framework that can guide and inspire new courses of action within those complicated and often closed organizations. Five assumptions guide the design of this dissertation:

1) Institutional stakeholders need a clearer sense of what engagement means. The concept of institutional engagement has, like the word paradigm (Kuhn, 1962), taken on a life of its own and has often been distorted for idiosyncratic purposes.
2) The nature of and differences between various institutional stakeholders in academic organizations must be detailed. They must advance their theory building and knowledge in this area.

3) There is a need for fuller description of the commitment to the basic idea of engagement from leaders and members of academic institutions. American pragmatism often seems to dictate that we find a use for every concept. Furthermore, contemporary institutional leaders frequently appear to need a strategy for change when confronted with the notion of engagement.

4) What we require most is not a set of recommendations about how we should adapt or mold an institution to meet our needs, rather we must determine how to work with and use the strengths and resources of the existing organizational culture to accomplish the goal of becoming engaged institutions.

5) Finally, there is a need to define engagement and outline the diversity in approaches and efforts among institutional stakeholders. Categorizations and use of concepts about institutional engagement will become clearer when specific stakeholders and leadership roles are examined in some detail. The concept of institutional engagement can easily become highly abstruse if it is not grounded in and illustrated by the analysis of specific settings at particular times.

1.8 Goals of Study

The focus of this work is on the organizational issues of institutional engagement so as to better delineate those leadership issues that facilitate the greatest change. This dissertation analyzes Iowa State Universities College of Agriculture internal stakeholders (faculty, staff and administrators) with the objective of developing: 1) a logical approach for dealing with institutional change for building and maintaining institutional engagement, and 2) benchmarks for building and maintaining the engagement initiative. The range of commonalities and differences among College of Agriculture internal stakeholders from diverse disciplines has provided much of the basis for the engagement model and benchmarking in Chapter 5.

The findings and analysis of this study should be useful to Iowa State’s College of Agriculture and possibly other disciplines outside of the college. First, the researcher shows the importance and need for new forms of management and leadership structures in the College of Agriculture that are being driven by environmental changes. Second, the researcher provides
examples and rich contextual data from College of Agriculture internal stakeholders (faculty, staff and administrators) that are trying to improve their organizational capacity for institutional engagement. Third, the researcher presents a thorough review of different theories of organizational and higher education adaptation, complex adaptive systems and a research design using grounded theory for studying organizational change and institutional engagement.

One objective of this study was to empirically describe how universities and colleges, specifically the College of Agriculture build and maintain institutional engagement (the other objectives were to explain and apply a conceptual framework based on complexity research and seek commonalities among the empirical descriptions). This objective involved the construction of inductive descriptions of what Holland (1995) refers to as a performance system. These descriptions are inductive in that they emerged from internal stakeholders of the College of Agriculture and were not deduced from theory or literature. Documenting (describing) these services has:

- provided a beginning point in the systematic research of building and maintaining institutional engagement in complex environments;
- provided valuable information to those seeking to build and maintain engaged institutions, particularly Colleges of Agriculture, by providing empirically grounded descriptions;
- highlighted the interaction between faculty, staff and administration and the complex institutional environment; and
- created an instructional tool for those training future College of Agriculture administrators, faculty and staff to build and maintain engaged institutions.

These activities are important to building, advancing and researching the engagement initiative as changing external conditions and their affects on higher education are increasing. The capacity of an institution to thrive, or even survive, in this context will depend on its ability to make internal changes, and to become more adaptive and responsive to changing external conditions. Adapting the internal dynamics and reinventing institutions to meet the external challenges will demand new roles, relationships, skill sets, and operating methods.

Kotter and Heskett (1992) contend that the single most important factor distinguishing successful change efforts from those that fail is competent leadership. They went further to state:

Without visible, committed, and continuous leadership, most organizational change efforts fall far short of expectations. Success requires the executive leadership team to support the change process as active champions, role models, and drivers of change. These leaders must have the courage and discipline to
embrace change and to learn skills essential for strategic transformation. They must actively commit to risk taking, openness, and collaboration in managing the complexities of the process. They must also inspire a sense of stewardship in working toward common goals among all affected stakeholders. Above all, this group of leaders must model change by visibly and actively engaging in the effort. (p. 35)

The external changes and their impacts on higher education are predicted to continue to increase in the near future. Evidence of this increased impact can be seen by:

1. the large and continued investment by organizations into building and managing institutional engagement (NASULGC, 1999a);
2. the increased attention towards higher education changed by the trade and popular press;
3. the increase in institutional activities related to community needs, specifically on building and maintaining institutional engagement (NASULGC, 1999a).

This study of institutional engagement within a College of Agriculture provides a succinct and in-depth empirical basis for building, advancing and researching the engagement initiative set forth by the Kellogg Commission on the future State and Land-Grant Universities. It also provides direct benefits to the population under investigation.

1.9 Research Questions

The notion of environment is all-pervasive in higher education (Becher & Kogan, 1992; Cameron, 1984; Clark, 1998; Dill & Sporn, 1995b; Leslie & Fretwell, 1996; Peterson & Dill, 1997; Slaughter & Leslie, 1997; Sporn, 1995). Commercial organizations are expected to scan the external and internal environment to make choices that will improve their services. This is no different in the higher education environment. Yet, the common axiom of "know thy users," becomes problematic when the total number of users of higher education is unknown. Higher education is a complex system that has been called upon to advance its current level of dynamic interactions using external stakeholders. This unprecedented adaptation of higher education calls for a deeper understanding of institutional engagement with its amazing amount of ambiguity.

As stated above, the overarching purpose of this study was to investigate the impact that internal stakeholders have on the building and maintaining of the engagement initiative within a College of Agriculture. This purpose is in response to the challenge set forth by the Kellogg Commission on the Future of State and Land-Grant Universities. This study had three specific objectives: 1) to build and apply a conceptual framework based on organizational adaptation theory,
literature and the researcher's experience, 2) to empirically describe, by applying the conceptual framework, how college's of agriculture, build and maintain an engagement agenda; and 3) to seek commonalities across these descriptions that will add in advancing the engagement agenda within other disciplines in higher education. In order to meet the purpose and objectives of this study the following research questions were asked:

1. Is there a clear sense of what engagement means between various institutional stakeholders?
2. Do College of Agriculture internal stakeholders (faculty, staff and administration) have a clear commitment to the basic idea of engagement?
3. Is there strong support from institutional stakeholders for infusing engagement into the teaching, research and outreach activities of the College of Agriculture?

1.10 Method of the Study

To address the question of how institutional internal stakeholders supports the building and maintaining of institutional engagement within a College of Agriculture, the researcher developed inductive descriptions of the organizational structure. This was done through a series of grounded theory methods (Glaser & Strauss, 1967) in the form of web-based open-ended questions, elite interviews, observations, and document analysis. These techniques elicited the current perceptions, challenges and techniques used by College of Agriculture faculty, staff and administration to engage external stakeholders. From the open-ended questions based on the seven-part test of engagement developed by the Kellogg Commission (NASULGC, 1999a), semi-structured interviews with institutional leadership and document analysis, the researcher developed a series of initial descriptions of institutional engagement within Colleges of Agriculture. These descriptions were verified by the organizations themselves and then compared to one another. This method is detailed in Chapter 3.

1.11 Delimiters and Assumptions

The researcher made several decisions in the preparation of this study. These decisions both focused the study (delimited) and reflected assumptions of the researcher. In order to maximize the understanding of this study and its results, the delimiters and assumptions are made explicit. These
factors affect the ability of these results to be transferred to other discipline and academic institutional settings and, strictly speaking, to Colleges of Agriculture other than the one selected to be studied.

1.11.1 Delimiters

Creswell (1994) states, "boundaries are necessary in a study to provide direction for the terms used, for the scope of the study, and for the potential audience" (p.105). These boundaries are known as delimiters. Delimiters provide "...parameters for a research study [that] establish the boundaries, exceptions, reservations, and qualifications inherent in every study" (Creswell, 1994, p.110). The researcher identified four factors that delimit this study:

1. The Iowa State University College of Agriculture as the unit of analysis;
2. Literature and previous research used;
3. Sample used for the study; and
4. Methods used to elicit information.

Each of these delimiters is discussed below in terms of justification and effect on the study.

1.11.1.1 The Iowa State University College of Agriculture as the Unit of Analysis

The study's unit of analysis is the College of Agriculture at Iowa State University. This college provides several services (extension, research and teaching for example) to the community. However, these services are seen as a part of the larger organization. This organization is broadly defined, although a single service (in this case an organization's stakeholder engagement) is used to identify the organization initially.

This unit of analysis limits the study's ability to abstract to a larger population (say to all Colleges of Agriculture or other disciplines within a university). It also limits the researcher's ability to specify characteristics of individual functions within organizations (of teaching for example). The researcher believes, however, that a study of organizations provides the most benefit to the audience of this research. A great deal of information already exists on organizational structures, and there are broad discussions related to the entire process of engagement (for example the third report of the Kellogg Commission on the Future of State and Land-Grant Universities The Engaged Institution). The researcher found little, however, related to the internal challenges of building and maintaining institutional engagement.
1.11.1.2 Literature and Previous Research Used

There is a tension created in naturalistic studies between the amount of knowledge used to inform the research process and the amount of bias introduced by previous knowledge. Creswell (1994) wrote:

In qualitative research the literature should be used in a manner consistent with the methodological assumptions; namely, it should be used inductively so that it does not direct the questions asked by the researcher. One of the chief reasons for conducting a qualitative study is that the study is exploratory; not much has been written about the topic or the population being studied, and the researcher seeks to listen to informants and to build a picture based on their ideas. (p. 21)

Thus literature must be used inductively to frame a study but should not interfere with the potential inductive results. This principle guided the selection of literature for this study. This study drew on seven areas of literature 1) institutional engagement, 2) adaptation of higher education, 3) characteristics of higher education, 4) complexity research, 5) general systems theory, 6) management literature (as it relates to the concepts of knowledge and control), and 7) administrative leadership. Each of these literatures either defined the study's area of investigation or aided in the creation of the study's conceptual framework. The conceptual framework is a "context free" structure that allows for the examination of faculty, staff and administrator perceptions towards the institutional engagement agenda set forth by the Kellogg Commission (NASULGC, 1999a) without predetermining the actual perceptions of that agenda. Literature for this study was not used to predict or create hypothesis, but rather to inform inductive inquiry. Looking for organizational structures, for example, does not predispose the researcher to finding a particular type or set of structures.

1.11.1.3 Sample Used for the Study

Faculty, staff and administrators within the College of Agriculture are not the only sample that could have been used in an investigation of institutional engagement. The choice of faculty, staff and administrators within a College of Agriculture in the strictest interpretation delimits the study and its results to the College of Agriculture at Iowa State University. However, these internal stakeholders could be perceived as being atypical of other faculty, staff and administrators within both other Colleges of Agriculture and colleges within a university. The researcher feels this study could aid these other colleges and internal stakeholders when evaluating the process of building and maintaining engaged institutions.
1.11.1.4 Methods Used To elicit Information

The primary data for this study came from a series of web-based surveys. The elites selected represented the entire organization. Within an organization, however, there are multiple perspectives. Management literature, for example, makes a distinction between strategic and tactical views. It was assumed that members within a single organization could have differing views. This study concentrated only on the view of the builders and maintainers of institutional engagement. Other methodologies, such as case studies, would have captured a larger cross-section of these views. The researcher, however, decided the "deeper" views of decision-makers were more important than a broader perspective.

1.11.2 Assumptions

The researcher makes several assumptions in this study. These assumptions are based primarily upon the researcher's past experience. These assumptions are:

1. Higher education will continue to be complex and dynamic.
2. Understanding internal stakeholders does not equate to understanding external stakeholders.
3. Descriptions of College of Agriculture stakeholders (faculty, staff and administrators) will be transferable.

These assumptions are discussed below. Also discussed are the perceived effects on the study and the study's results.

1.11.2.1 Higher Education will continue to be Complex and Dynamic

As noted above, the researcher makes the case that higher education is a complex and dynamic environment. Such environments (complex adaptive systems) must remain dynamic and flexible. The notion of complexity is a perpetual novelty. Complex adaptive systems evolve and adapt. Complex adaptive systems, however, can end by evolving to a state of stability. On the other hand, these systems can also lose all structure and regularity and devolve into chaos. The researcher assumes that higher education will neither stabilize to the point of predictability nor devolve into utter chaos. This assumption directly affects the "life span" of the conceptual framework used for this
study. If higher education does become static, or completely chaotic, the conceptual framework becomes invalid for studying institutional engagement within Colleges of Agriculture or higher education in general.

1.11.2.2 Understanding Stakeholders

The understanding of external stakeholders (community, students, business, etc.) perceptions and internal stakeholders (faculty, staff and administrators) perceptions within the context of needs is insufficient to understand institutional engagement itself. The Kellogg Commission (NASULGC, 1999a) stated that the engaged institution is referred to as “institutions that have redesigned their teaching, research, and extension and service functions to become even more sympathetically and productively involved with their communities” (p. vii). While redesigning to meet the external needs is important, that alone will not ensure an engaged institution. The same redesigning question can be processed in a variety of methods and with a variety of sources. Therefore, merely knowing what external stakeholders needs are in regards to engagement is insufficient in understanding the system itself.

Further, it appears that much of the engagement agenda set forth by the Kellogg Commission directs little attention to the internal stakeholder needs and how to adapt the current organizational structures that exist. They are proposing to build and maintain an engagement agenda without much in the way of internal stakeholder input. Therefore, there was little attempt on the part of this study to gather external stakeholder information or user evaluations of higher education and/or the College of Agriculture. Rather, the study was primarily interested in evaluating the perceptions of internal stakeholders (faculty, staff and administration) toward the engagement agenda, in hopes of establishing a conceptual framework that will lead to potential success of the engagement agenda.

1.11.2.3 Descriptions of Stakeholders Will Be Transferable

Descriptions of faculty, staff and administrators within the College of Agriculture at Iowa State University are useful and transferable not only to other Colleges of Agriculture, but also, the larger field of higher education. The delimiters above reduce the formal ability of this study's results to be transferred to other domains and other Colleges of Agriculture. The researcher's experience, however, has demonstrated, on an informal basis, an ability of one college to learn from other colleges even though they may be involved in different disciplines (whether those be in business,
engineering, education, etc.). As stated in the introduction and the Kellogg Commission Report (NASULGC, 1999a), "information on the processes of building and maintaining institutional engagement is scarce" (p. ix). Thus, it has been the experience of the researcher that colleges and departments often look for information based on building and maintaining in general, not based upon individual disciplines.

1.12 Structure of Dissertation

This dissertation presents theoretical and empirical work on adaptation of the engagement agenda in a College of Agriculture. The goal is to describe and analyze the state of engagement, and situate the findings within this framework. The dissertation consists of five chapters, including this introductory one.

Chapter 2: Review of Literature. Theories of organizational and higher education adaptation are outlined and explored as they relate to institutional engagement. The theory of adaptation is tightly linked to an open system perspective found in organizational theory. Scholars have increasingly emphasized the understanding of the organization as interacting with its environment since the 1970s. Chapter 2 reviews existing theories of organization adaptation and evaluates publications regarding higher education adaptation.

Chapter 3: Methodology and Research Design. The study utilizes various grounded theory methods to understand the reality of adaptation of the engagement agenda in Colleges of Agriculture. The conceptual framework, general assumptions, methodology, and research design are presented in this chapter. The rationale for choosing faculty, staff and administrators and the methods used to collect data are also described.

Following the grounded theory approach and the guidelines for building theory from qualitative inquiry, the researcher uses the theoretical concepts of Chapter 2 for comparison with the empirical findings. Hence, the researcher describes the basics of these research methodologies in Chapter 3.

Chapter 4: Findings. The previous chapters set the stage for developing the researchers propositions for a grounded theory of adaptation within Colleges of Agriculture towards the engagement agenda. In this chapter, the empirical research findings are discussed and analyzed in detail using different clusters for comparisons. Based upon that, benchmarks addressing the major factors influencing adaptation of the engagement agenda within Colleges of Agriculture are
developed. In addition, the researcher compares these proportions with the literature described in Chapter 2.

Chapter 5: Conclusion and Recommendations. Concluding this dissertation, Chapter 5 presents implications for College of Agriculture management and higher education research. As implications for practice, these results can help faculty, staff and administrators to better understand the levers and processes for change in their institutions. Although preliminary, the propositions developed in this study can be used either to predict the adaptability of the engagement agenda within Colleges of Agriculture or to design more institutional engagement structures.

Questions for future research on institutional engagement could include a detailed analyses of environmental demands (e.g. social, economical, political) and their influences on institutional engagement; the environmental vulnerability of different institutional/department types (e.g. research universities, community colleges, vocational training institutions, secondary agricultural programs); the usefulness of network approaches for understanding organizational adaptation; and the trend towards administrative growth and management adaptation in many higher education systems.

1.13 Summary

This chapter provides a statement of the problem investigated in this study and the context in which the problem was studied. More stakeholders with differing degrees of need are calling upon Colleges of Agriculture, and traditional models of higher education, but these institutions are no longer capable of responding to society's needs. Colleges of Agriculture are not immune from market forces, technological innovation, or an emerging globalization of access and resources. Institutional engagement has emerged as a practical, institutionally sound concept for addressing the criticisms and challenges leveled at higher education today. Regardless of how institutions choose to define institutional engagement — whether as a statistical measure of increased programming, or as gains in meeting societies needs that show up as positive outcomes on program assessments — Colleges of Agriculture now have compelling evidence to suggest that creating engaged institutions leads to greater societal success and therefore greater satisfaction with higher education.

While there is a lack of empirical, scholarly information regarding institutional engagement to draw upon, this study explored the complex College of Agriculture environment and offers a logical approach for dealing with institutional change for building and maintaining institutional engagement. This study and its benchmarks do not attempt to answer the question "how to develop institutional engagement completely?" Instead, the study serves as a first step toward establishing a
process of creating a capacity for institutional engagement while addressing faculty, staff and administrator issues to facilitate needed institutional change specifically within a College of Agriculture.
CHAPTER 2
REVIEW OF LITERATURE

2.1 Chapter Preview

This study drew on seven areas of literature: 1) institutional engagement, 2) adaptation of higher education, 3) characteristics of higher education, 4) complexity research, 5) general systems theory, 6) management literature (as it relates to the concepts of knowledge and control), and 7) administrative leadership. Each of these literature reviews either defined the study's area of investigation (institutional engagement) or aided in the creation of the study's conceptual framework. The conceptual framework is a "context free" structure that allows for the examination of an institution without predetermining the actual structure of that institution (or, in Holland's, 1995 terminology the performance system). Literature for this study was not used to predict or create hypothesis, but rather to inform inductive inquiry.

The present chapter places this study within a variety of literatures and existing research. A review of institutional engagement outlines current thinking about the adaptation of higher education to become even more sympathetically and productively involved with their communities. It provides not only a backdrop to the study, but demonstrates the need for this study as it builds a series of expectations with regards to the leadership needed to advance the basic ideas of institutional engagement. Complexity research is reviewed and used as a primary foundation for the conceptual framework of this study. General systems theory is reviewed in relation to complexity. This review offers the opportunity of placing complexity research into the more widely understood and accepted framework of open systems. Management literature is also outlined briefly in relation to the concepts of knowledge and control. These concepts demonstrate the unique nature of an institution's internal stakeholders (faculty, staff and administration) as they relate to institutional engagement and the management of the engagement initiative. Lastly, the Kellogg Commissions (NASULGC, 1999a) seven-part test of engagement was thoroughly examined. This study's seven-part test of engagement was developed as a means of better defining both institutional engagement and the inputs (detectors) that allow institutional internal stakeholders to advance the engagement initiative.

The researcher used this body of knowledge to meet the objectives of the research: 1) to build and apply a conceptual framework based on organizational adaptation theory, literature and the researcher's experience, 2) to empirically describe, by applying the conceptual framework, how
college's of agriculture build and maintain an engagement agenda; and 3) to seek commonalities across these descriptions that will add in advancing the engagement agenda to other disciplines in higher education. The descriptions were used to answer the following research questions:

1. Is there a clear sense of what engagement means between various institutional stakeholders?
2. Do College of Agriculture internal stakeholders (faculty, staff and administration) have a clear commitment to the basic idea of engagement?
3. Is there strong support from institutional stakeholders for infusing engagement into the teaching, research and outreach activities of the College of Agriculture?

Ultimately, a methodology was created that is grounded in the existing literature, theory and the researcher's experience.

2.2 Framework for Institutional Engagement

Universities and Colleges have been characterized by a tension between the forces of stability and the inevitable need for change. Much of the strength and utility of higher education institutions comes from their inertia. Inertia helps to make them both reliable and accountable for what they do. Indeed, some argue that their tendency to inertia provides higher education with a short-term competitive advantage. From organization theory and much research, we know that institutions do not adapt readily or easily. Many institutions that change do so in ways that are neither effective nor successful. Higher education must continually balance the forces of stability while pushing for change.

Nevertheless, organizational theory suggests that, to survive, organizations must be compatible with their environments, which include all the external and internal social, economic and political conditions that influence their actions. In the current environment of rapid technological and societal change, organizations must adapt quickly enough to maintain the resources and legitimacy they need to stay viable. In the judgment of the Kellogg Commission on the Future of State and Land-Grant Universities (NASALGC, 1999a) the greatest opportunities for enhancing organizational performance today are likely to be found on the change side of the equation.

To move towards the change side, many are asking "What can realistically be expected of higher education today?" Lane (1992) stated that "the growth in the importance of universities and colleges to their communities in the last half century has led to a thicker web of reciprocities between higher education institutions and the local environment" (p 4). The examination of existing research and literature in the area of academic adaptation (Berdahl & McConnell, 1994; Clark, 1998; Dill &
Sporn, 1995; Ewell, 1991; Gumport & Sporn, 1999; Leslie & Fretwell, 1996; Rhoades, 1995; Slaughter & Leslie, 1997, Trow, 1998) and institutional engagement (Astin, 1993; Boyer, 1990; Cole, 1994; NASULGC, 1998a, 1998b, 1999a, 1999b, 2000a, 2000b) provides context for this study. This literature is provided as a "backdrop" to the research, and builds a set of expectations for the researcher as during the process of examining internal agents (faculty, staff and administrations) commitment to the basic idea of engagement. It also outlines present thinking in the field, and how this thinking is related to the engagement initiative set forth by the Kellogg Commission (NASULGC, 1999a). The literature also demonstrates the need for further study of institutional engagement and the critical role internal stakeholders (faculty, staff and administration) play in building and maintaining the engagement initiative within a College of Agriculture.

2.3 Institutional Engagement: The Terminology

The engagement initiative set forth by the Kellogg Commission on the Future of State and Land-Grant Universities (NASULGC, 1999a), and described in Hollander and Hartley's (1999) research suggest that there is growing evidence of a national social movement for civic renewal in higher education. Representatives from national higher education associations, think-tanks, and campus initiatives have begun to come together in "networks of informal interaction" (Diani, 1992) to discuss ways in which they can define institutional engagement, and direct their activities to a common set of goals. While there have been early attempts to define institutional engagement by many of the network-building initiatives, there is not yet a consensus on one definition of institutional or civic engagement. At its most basic core, engagement is defined as the interaction of citizens with their society and their government (Patrick, 1998). According to Diani (1992) engagement activities within higher education include objectives such as developing civic skills, inspiring engaged citizenship, promoting a civil society, and building the commonwealth.

National associations, think-tanks, and agency initiatives (i.e., Association of American Universities (AAU), American Council on Education (ACE), Association of American Colleges and Universities (AAC&U), American Association for Higher Education (AAHE), Associated New American Colleges (ANAC), Association of Governing Boards of Universities and Colleges (AGB), Campus Compact, Carnegie Foundation for the Advancement of Teaching (CFAT), Civic Practices Network, Corporation for National Service, Council of Independent Colleges (CIC), Joint Educational Trust, National Association of Independent Colleges and Universities (NAICU), National Association of State Universities and Land Grant Colleges (NASULGC), National Commission on
Civic Renewal, National Society for Experiential Education (NSEE), US Department of Agriculture, US Department of Education, US Department of Housing and Urban Development, Wingspread) approach civic engagement with a different organizational history and framework that inform their work. They each belong to what Hollander and Hartley (1999) have called, "a different network," such as the networks around service-learning, diversity, and university-community partnerships. Some sponsoring associations are intentional about describing their work using specific key terms, while others do not consciously frame their work in that way. Regardless, each of these associations is operating from an understanding of institutional engagement that frames their work.

Judith Ramaley (1998), president of the University of Vermont and a biologist by training, has pointed out that when a new organism or biological process is just being discovered, scientists often struggle for awhile, as they try to define together exactly what they have before them. Similarly, the term institutional or civic engagement is a term being used to describe many different philosophies of citizenship and many different kinds of activities within higher education. Consequently, a discourse community has emerged among these national initiatives that struggles to understand diverse perspectives on engagement and what it means in the context of higher education.

Associations such as Campus Compact, the Corporation for National Service, National Society for Experiential Education (NSEE), Council of Independent Colleges (CIC), and others belong to the largest network of educators committed to engagement through service-learning pedagogy. This network approaches engagement as activities that educate people with civic skills to engage in a democratic society. Within higher education, the focus is primarily on college-student development for civic life. Barber (1997) and Boyte and Farr, (1997) have described civic skills as tolerance of political, religious, and racial views, sense of agency in accomplishing governmental/political tasks, leadership and involvement in issues, critical thinking, public deliberation, a sense of civic obligation, and commitment to take collective action. Participation in service-learning courses has been reported to result in enhanced civic values (Knefelkamp and Schneider, 1997). However, it is clear that service-learning courses alone do not guarantee the development of civic skills, and it is also not clear exactly which civic skills are likely to be enhanced by which kinds of service programs. Nonetheless this first network views engagement as one of several goals for service-learning pedagogy.

Associations such as the Association of American Colleges and Universities (AAC&U) and the American Council of Education (ACE) belong to another network committed to equity and diversity education. Their emphasis has been diversifying faculty, students and staff and infusing multicultural education into mainstream curriculum across higher education. Diversity is viewed as a
"form of democracy not yet achieved" (Schneider, 1999) in which human difference is respected and ultimately embraced. The goal of diversity education within higher education is to expose students to different cultures, and require them to critically view differences across race and class within our own society, including experiences of stigma and unequal power relationships, and the existence of "isms." Diversity education's goals are much like the goals of service-learning, both works toward the development of civic skills. For the diversity education network, the civic skills that are most important are the ability to appreciate differences, conflict resolution skills, and public deliberation skills. Diversity education also strives to build a stronger commonwealth and civil society through diverse representation. Consequently, engagement efforts are about building the capacity to value and contribute to pluralism on campuses and within society. The philosophy is that if students, faculty, and others understand their own and others' identities better, they can build bridges across differences, and thus the democracy will function more effectively (Harkavy, 1999).

A third network, which some have called university-community partnerships (Hollander and Hartley, 1999), is a less homogeneous classification of initiatives, and may also be described from a grassroots, community organizing, community development, or "practical" perspective. Initiatives such as Listening to Communities, NSEE's initiatives, the U. S. Department of Housing and Urban Development (HUD) funded Community Outreach Partnership Centers and others included in this network emphasize engaging university personnel and resources in community building, or being a good citizen in the community. They focus on the development of reciprocal relationships and partnerships between universities and communities.

Then there are initiatives that provide models and frameworks for community-building. The Asset Based Community Development Institute defines their work as "citizen capacity building" or building upon the capacities and gifts of local citizens and communities. ABCD believes that the basic information needed to develop strong communities is an inventory of the capacities of its residents (Kretzmann & McKnight, 1993). Much of their work centers on creating these practical inventories and then putting them to use for the public benefit. These initiatives pride themselves on their diversity and what they learn from it. Judith Ramaley (1999) has described engagement work as "learning together in public" and many of these projects are about building a stronger commonwealth through practical projects where university and community personnel allow themselves to be vulnerable enough to learn together as they go along. These initiatives include what is called in the Campus Compact presidents' declaration as campuses acting as citizens in their own communities.

A fourth network of definitions for institutional engagement comes from writings and projects completed by Barber (1997), Boyte and Farr (1997), Patrick (1998), and others where
engagement is constructed as a return to a more democratic government. For example, initiatives such as the Measuring Citizenship Project, Index of National Civic Health, Civic Practices Network, Alliance for National Renewal and others connected with the reinventing government movement, define civic engagement largely as increased involvement between citizens and their government, increased capacity for citizens to solve problems together in public forums, and for more infusion of the public’s work in scholarship and university activities. The Civic Practices Network defines such a perspective as the new citizenship:

The new citizenship seeks a return to government of and by as well as for the people, a democracy whose politics is our common public work: where citizens are as prudent in deliberation as we want our representatives to be; where public problem solving takes the place of private complaint; where all give life to liberty, and rights are complemented by the responsibilities that make them real. A citizen democracy turns blame of others into self-reliance and mutual aid; it transforms passive clients into active stakeholders of change in our communities, the nation, and the world. It seeks the return of authority from unaccountable structures to the public and to community and civic associations, and the renewal of government and civic institutions alike as sites for public work. (Boyte, Barber, Marshall, 1994, p.6)

There are multiple other ways to frame engagement that guide this type of work. For example, the Center for Democracy and Citizenship develops its initiatives around a definition of public work that is paid or unpaid, and has public meanings and lasting public impact. Public work contributes to the commonwealth, our common stock of goods, resources, and public institutions and suggests a contrast to the idea of citizenship as charity, or what is meant by "community service," emphasizing helping those in need.

Likewise the Civic Mission Project defines engagement as employment that contributes to society. On the other hand, the American Political Science Association, like the service-learning and diversity networks, focuses on developing civic skills but emphasizes the knowledge of political processes, and the development of students as "active skeptics" as the most important civic skills in their initiatives. NSEE’s Social Justice special interest group (SIG) defines engagement as a means to create greater social justice in the world, and their initiatives focus on decreasing unequal, unjust power relationships between people within, between, and outside of universities. The Templeton Foundation frames their work as character education and approaches engagement as one of many virtues such as honesty, and integrity that they hope to support within their initiatives. In summary, the initiatives represented in this section utilize different terminology and frame their work using different perspectives on engagement. However, the development of civic skills is a common goal and organizing framework for most of these associations, even if their activities emphasize the...
development of different civic skills. This section focused on the kinds of civic skills and engagement the sponsoring associations hope to accomplish. The next section describes the initiatives that are directed toward these goals.

2.3.1 National Engagement Areas of Focus

Campus Compact's Assessment of Civic Responsibility (1999), and Barbara Holland's (1997) framework for evaluating institutional commitment to service suggest that in order to effectively engage higher education in institutional engagement, national initiatives should address the following areas: 1) institutional mission; 2) undergraduate and graduate curriculum; 3) co-curricular activities; 4) campus culture, student, faculty and staff diversity; 5) faculty culture, faculty orientation and rewards; 6) administrative leadership; 7) campus-community partnerships, public relations and fundraising; and 8) institutional planning.

The majority of national initiatives represented this section are targeted toward undergraduate education reform, and increasing opportunities for undergraduate students to learn about citizenship through service, exposure to diversity education, and leadership opportunities. Campus Compact, AAC&U, and Learn and Serve America have made the greatest number of contributions in this area, whether through funding actual programs that engage students in civic education or training the faculty and staff who launch these programs. AAC&U's multicultural education programs have engaged students in over 127 institutions in some form of diversity education. The National Association of Independent College and Universities (NAICU) has launched a major initiative to register college students as voters. Campus Compact has engaged student leaders in civic engagement through interviews with college presidents and through national recognition programs for student leaders. The American Association of Higher Education (AAHE)'s plans to increase the number and quality of undergraduate learning communities focused on civic engagement, and NERCHE's project to engage students and faculty in community-based scholarship are two other examples of attempts to increase capacity for institutions to engage undergraduates in civic work and dialogue.

The second largest area of effort has been in the area of university-community and K-12 partnerships. In these initiatives, colleges and universities are encouraged to become aware of themselves as citizens within communities and to become productive contributing members of the communities in which they reside. HUD's Office of University Partnerships and the US Department of Education's America Reads, America Counts, and Gear Up are examples of two widespread government-funded attempts to connect university faculty, students and campus institutions with
community agencies through research, economic development, employment and purchasing initiatives, service-learning, work-study, and internship placements. NSEE is one of the first associations to carefully document the process of university-community collaboration. The West Philadelphia Improvement Corps (WEPIC) establishes relationships between universities, K-12 schools, and community organizations. The Listening to Communities Project supports the idea of reciprocal partnerships by designing a model for how universities can listen to communities describe their own needs as opposed to having universities define those needs for them.

The third largest area of national activity has been network building among national associations already engaged in, or interested in, institutional engagement, and capacity-building work for their constituencies. ACE increased contact among the national associations through their Forum on Higher Education and Democracy, and the two Wingspread meetings (coordinated by Checkoway December 11-13 and July 19-21, 1996 entitled, "Renewing the Civic Mission of the American Research University"). The ACE also gathered leaders from national associations and regional initiatives to discuss opportunities for collaboration. The American Association for Higher Education (AAHE) has now agreed to act as conveyor of the national associations and AAC&U is coordinating a web site so that the associations can share resources and continue to advance the institutional engagement movement. The annual Saguaro Seminar at Harvard University, and proposed Institute on Education for Democracy are other examples of initiatives that are bringing educators and practitioners together to learn about civic education, collaborate, and share resources. The Templeton Foundation, Campus Compact, and AAU, have all produced resource guides to individual campus initiatives to increase knowledge of institutional engagement and the sharing of project lessons. The American Association for Higher Education (AAHE)'s series on Service-Learning in the Disciplines, the National Association of State Universities and Land Grant Colleges (NASULGC)'s Engaged Institution report and AAC&U's Peer Review issue on engagement further the knowledge of theory, research, and practice in institutional engagement and provide practitioners with frameworks to build the movement. The Diversity Web, Civic Education Network, and Civic Practices Network provide every-day access to hundreds of campuses in need of civic engagement resources. Finally, spell out Philadelphia Higher Education Network for Neighborhood Development (PHENND) and The New England Resource Center for Higher Education (NERCHE) both enhance capacity for engagement by regularly gathering institutional leaders regionally for meetings on institutional engagement and/or providing mini-grants for specific projects.

Policy development is the fourth area of national effort. Many national initiatives have brought together the foremost thinkers on democracy, service-learning, diversity, institutional
engagement and organizational change to make recommendations or write policy for how universities should approach institutional engagement. AAC&U’s American Commitments initiative, Kellogg Commission on the Future of State and Land-Grant Universities, Campus Compact’s President’s Fourth of July Declaration, the Wingspread Declaration, and recent attempts to amend the Carnegie classification system are examples of such policy efforts.

A fifth area of focus is national efforts to spark institutional transformation for institutional engagement. The most notable examples are Campus Compact’s Building the Service-Learning Pyramid project, NERCHE’s Civic Learning Cluster Project, the Civic Mission Project, and AAHE’s Urban Universities Portfolio Project.

NERCHE’s Project Colleague, AAC&U’s faculty development institutes such as Boundaries and Borderlands, and Campus Compact’s institutes for faculty development are strong examples of the sixth area of national effort, faculty development. The National Review Board for the Scholarship of Engagement is yet another example of how national efforts are designed to assist universities and faculty in the assessment and rewards of faculty involvement in institutional engagement. The next section describes the audiences that these initiatives are directed towards.

2.3.2 Engagement Initiative Audiences

Another way to analyze institutional engagement initiatives is an analysis of the audiences they serve. Campus Compact’s Campus Assessment of Civic Responsibility recommends that the engagement movement engage college presidents, students, faculty, administration and staff. In his comments at the second Wingspread meeting, Taylor (1999) suggested we extend that list of internal higher education constituencies to include athletic departments, associations on campus that self organize, and those faculty and staff at the bottom of the power ladder. Taylor also commented that a power analysis of higher education suggests that external constituencies like trustees, alumni, disciplinary associations, the federal government, foundations, corporations, media, independent citizen organizations and think-tanks are also crucial stakeholders of higher education and critical to the civic engagement movement. Furthermore, civic renewal leaders, government leaders, leaders in the minority community, accrediting bodies, classification systems, and ranking systems are also important "audiences" to reach.

The second greatest number of initiatives are reaching faculty and engaging their participation, and providing training for their involvement in service-learning, diversity education, and some community-based scholarship. There have been some efforts to extend faculty members’
involvement to curriculum development and assessment of their own and other campus civic engagement initiatives.

Several initiatives have reached college presidents, university administrators, and faculty leaders. These groups have made policy recommendations, and participated in conferences to increase the capacity of their campuses to engage in institutional engagement, and to encourage more campuses to become involved.

What audiences or constituency groups are national efforts not reaching, or only partially reaching? First, according to O’Meara and Kilmer (2000) few national efforts are reaching graduate students and professional graduate programs such as those in education, health care, business, and engineering. The Campus Community Partnerships for Health program, which has connected graduate health education programs and communities, is one notable exception. Second, while faculty are being reached through mini-grant programs and some conferences, institutional engagement is just beginning to be integrated into mainstream faculty life through disciplinary associations, promotion and tenure requirements, research funding, and faculty governance. The Civic Mission Project and National Review Panel and institutional transformation projects are making inroads in this area. However, there is a long way to go to truly transform academic culture for institutional engagement. Third, while many national efforts have engaged institutions in university-community partnerships, few have really focused on building relationships with community partners specifically on projects that increase the civic capacity of those community agencies and the individuals they serve.

National efforts to increase institutional engagement in higher education have only partially engaged administration and staff and have failed to encourage or fund projects that build bridges between student affairs and faculty for institutional engagement. Taylor (1999) points out that just as there is tenured and untenured faculty, there are many kinds of "staff" on campus. There are personnel on campus who live in the same communities where students engage in service-learning and where racial conflict is an everyday struggle. They are an untapped resource for this movement. Athletic departments, student government associations, and associations that self-organize such as fraternities and sororities or African American student centers could become more involved in this movement.

O’Meara and Kilmer (2000) contend that it is very important that more national initiatives target the stakeholders and constituencies of higher education outside the university. A few national initiatives have begun to reach out to disciplinary associations (AAHE’s Series on Service-Learning in the Disciplines, and Campus Compact grants to disciplinary associations). The Carnegie
classification system project (Holland, 1997) has begun to work with college rating systems. The Association of Governing Boards (AGB) has tried to involve governing boards in institutional engagement. Several initiatives have attempted to reach out to the media (Ford Foundation Diversity Initiative, Campus Compact's Interviews with Presidents). However, much more needs to be done to bring these groups into the engagement movement. Furthermore, there are a lack of national initiatives reaching out to government leaders, civic leaders in local neighborhoods, corporations, leaders in the minority community, alumni, and accrediting agencies. There are other movements occurring outside of higher education which are complementary to the institutional engagement movement like the reinventing government movement, America's Promise, voter registration drives, and K-16 standards, to name only a few. Connecting with these movements and finding the best areas for collaboration will be imperative for linking the national higher education engagement movement with other key higher education constituencies. The next section describes the leadership need for these initiatives in order to advance the engagement initiative.

2.3.3 Leadership for Institutional Engagement

There are a number of national associations, think tanks and individuals providing leadership to the national institutional engagement movement. Among the national associations, AAHE, ACE, AAC&U, Campus Compact, NERCHE, and NSEE have been the major leaders in launching and sustaining the engagement movement. ACE is the largest higher education organization in D.C. with strong connections to congressional and corporate leaders. Under its leadership, ACE has used its resources to benefit the engagement movement. ACE's constituency base of college presidents and corporations, as well as their track record in fighting for affirmative action and access placed them in a unique position to convene the national associations and place engagement on the national higher education agenda. However, they are no longer sustaining this engagement and have handed it over to AAHE, which has agreed to build upon ACE's work under its leadership. AAHE's diverse membership, and success at creating forums such as the Forum on Faculty Roles and Rewards, as well as their many dissemination mechanisms, places them in a good position to continue to place institutional engagement on the national higher education agenda. There are plans to have AAHE's national conference focus on institutional engagement in 2001.

Under its leadership, AAC&U has been the leader in defining and then creating capacity for diversity education in higher education across the country. AAC&U's DiversityWeb site, which receives 100,000 hits each month, has a proven track record in faculty development and curriculum
transformation. This Web site also includes profiles of the diversity work of over 127 campuses, national reports and many dissemination outlets, which place this organization in an ideal position to continue to advocate for diversity education as a critical component of civic education. AAC&U has made important contacts with leaders in the minority community and with Women's Studies and African American Studies programs across the country that will benefit the movement. Campus Compact, under its leadership, was the first association to officially discuss service-learning as a form of civic responsibility and spread this terminology across the field of service-learning. Unlike the other associations, the civic mission of higher education (through students, faculty and the college or university itself) is their single focus. Campus Compact’s network of 650 college presidents, faculty, and community service director’s liaisons furnishes them with direct access to both the policy-makers in higher education and the players in the field making institutional engagement happen. Also, under its leadership, the New England Resource Center for Higher Education has been influential in providing national models for faculty development in professional service and for recognizing faculty professional service nationally through the Lynton award, and in forging a path in the area of community-based scholarship. While the Education Commission of the States, through the Compact for Learning and Citizenship, has mostly led the way in K-12 service-learning, their connections with governors and state legislatures could be tapped for the higher education engagement movement. NSEE is the national association with the longest history of service-learning in their mission and can take credit for having provided professional development for educators in the field of service-learning for over a decade.

The following foundations and government agencies have been very active in supporting institutional engagement; the Pew Charitable Trusts, the Ford Foundation, the Kettering Foundation, the W.K. Kellogg Foundation, Surdna Foundation, the John Templeton Foundation, the Dewitt Wallace Readers Digest, the Corporation for National Service, the US Department of Education, and HUD, Office of University Partnerships. The next section describes the gaps in the field of institutional engagement.

2.3.4 Gaps in Institutional Engagement

Allison Bernstein (1998) provides a vision for the engaged campus that is particularly useful in critiquing existing institutional engagement activities. She assesses an engaged campus by asking: Does the university formally include civic education in the academic curricula and graduation requirements of all students in all majors? Does it provide space on campus for the community at
lower-than-market rates? Does it give grants to community organizations to employ faculty for applied research? Does it have a formula where service-learning and internship sites are reimbursed for providing learning opportunities? Do non-governmental and community-based organizations receive half of the indirect costs on collaborative grants? Are the universities' assets, lands, technical services, and staff available to the community?

Applying these questions to national initiatives, we see that very few projects have addressed these issues. Bernstein's questions are geared toward individual campuses instead of national and regional projects. Nonetheless, they require the national institutional engagement movement to ask themselves some hard questions. Few initiatives, which have stimulated institutional transformation for institutional engagement, have included requirements that civic education be a requirement for every major. Efforts made by many national associations have created the capacity for hundreds of colleges to offer service-learning within academic curricula and allowed hundreds of students to experience diversity education. But has service-learning pedagogy and diversity education translated into civic education? And does service-learning and diversity education necessarily lead to the development of civic skills? If so, which civic skills? The answer is not yet clear.

Second, according to O'Meara and Kilmer (2000) the majority of funding for the engagement movement has gone directly to universities, and has not provided grants to community organizations to employ faculty in applied research, or reimbursed community partners for providing learning opportunities. A power-analysis of this situation would suggest that universities are moving out into communities more than they are inviting the community in—especially regarding major decisions about what kinds of engagement activities are needed and how they should be approached. There are some advantages to university-community partnerships being directed by universities. Nonetheless, when you apply Bernstein's (1998) vision of an engaged campus to this movement, you see more attempts at increasing democracy within the borders of the campus than between the university and their community.

Based on the 56 initiatives in the O'Meara and Kilmer (2000) study, there are many gaps in the field of higher education institutional engagement and fertile areas for expansion of the movement. O'Meara and Kilmer (2000) conclude that national associations, think-tanks, regional groups, policy-makers and funders should consider projects that address new areas or rarely traversed areas of higher education institutional engagement. These areas include the influence on making institution's missions, workload, and reward systems more consistent, improving the quality and aims of teaching and learning, expanding the definition of faculty work and scholarship, and strengthening universities' identities, sense of community, and purpose (O'Meara & Kilmer, 2000).
O'Meara and Kilmer (2000) further contend that leaders in the national institutional engagement movement need to spend more time "sizing up" how their change efforts will be accepted or rejected by the forces within academic culture that maintain a status quo. For example, O'Meara and Kilmer believe the movement needs to address forces within higher education that reward research over teaching and service, implicit and silent assumptions about scholarship that influence academic decisions, and the university culture of "expert knowledge" that has kept the community at arms length, disciplinary culture, and market-driven pressures on colleges and universities.

In conclusion, the national institutional engagement movement has made great strides in renewing higher education's commitment to its civic mission. The greatest number of initiatives has focused on undergraduate education and on the development of civic skills through service-learning, diversity education, and university-community partnerships. Recently, network-building and capacity-building activities have brought national and regional associations together to collaborate on civic engagement projects and to share resources.

As this review of institutional engagement suggests, the changing conditions of higher education, and the increasingly complex expectations society holds for universities and colleges, demand that each campus develop specific strategic directions to help better focus its efforts. Even long-time traditional taxonomies of higher education, such as the Carnegie Classification System (1994) are evolving as reflections of increasing diversity among campus missions tending toward a greater complexity of institutional roles.

For the purpose of this research project the engaged institution is not just physically located within a community, rather it must be intimately connected to the public purposes and aspiration of community life itself. The engaged institution is unable to separate its unique responsibility for the development of knowledge from the role of knowledge in a democratic society to form the basis for social progress and human equality. Specifically, institutional engagement is defined as “institutions that have redesigned their teaching, research and outreach functions to become more sympathetically and productively involved with their communities, however community may be defined” (NASULGC, 1999a).

Increased attention to the potential of institutional engagement is often the trigger for institutional discussions about the specificity of the mission and the clarity of strategic directions. For institutions that have been caught between the images of a research university and a teaching institution, defining and implementing the role of engagement often gives new clarity to both research and teaching, resulting in a more integrated view of faculty work, student learning, and campus/community relationships (NASULGC, 1999a). There is no doubt that community
engagement is an important component of the scholarly work of any institution, and to fulfill this newly-understood role requires significant changes in structures, plans and attitudes.

Engagement cannot be conducted as a separate function from teaching and research. Rather the effective practice of engagement draws on institutional academic strengths, and depends on close integration with the institution's goals for teaching, learning and research. Engagement requires investments in infrastructure, faculty development and organizational change. Therefore, engagement demands highly thought out strategic planning to ensure its success and sustainability.

Every institution needs to make its own systematic decisions about the degree to which engagement is appropriate and relevant to their organizational mission and strategic directions. In addition, campuses that have made some progress in implementing engagement activities often wonder, "What will help move institutional stakeholders forward to an even greater level of engagement?" This research project answers this question by assessing a College of Agriculture's internal stakeholder needs to gauge its performance in the area of engagement, as well as to plan for improvements and adaptations. The next section describes the dynamics of academic adaptation and its impact on institutional engagement.

2.4 Dynamics of Academic Adaptation

...men must be discriminating appraisers of their society, knowing coolly and precisely what it is about the society that thwarts or limits them and therefore needs modification. And so must they be discriminating protectors of their institutions, preserving those features that nourish and strengthen them and make them more free. To fit themselves for such tasks, they must be sufficiently serious to study their institutions, sufficiently dedicated to become expert in the art of modifying them. (Gardner, 1968)

In describing the Achilles heel of both unloving critics and uncritical lovers, Gardner (1968) noted that "love without criticism brings stagnation through a smothering process that embraces rigidities (i.e. traditions) more than promise; and further that criticism without love brings destruction through ignorance of the art of nurturing and strengthening human institutions." Moving forward may be difficult for those whose belief systems and personal identities are totally invested in the old paradigm; they therefore perceive no reason to change. The personal and professional trap is that any paradigm, or model of reality, that becomes comfortable also becomes self-limiting.

It is no secret that American higher education is in a period of paradigmatic adaptation. More than at any other time in the memory of the senior members of higher education have colleges and universities seem more bent on finding and learning new ways of doing their work (Clark, 1998; Dill
& Sporn, 1995b; Lessie & Fretwell, 1996; NASULGC, 1999a). Motivated by a familiar list of external forces ranging from public questioning of their priorities to financing to technology, institutional leaders are scrambling to rethink their methods while remaining true to their purposes.

At the very heart of the current debate — the single concern around which all others rotate — is the issue that our entire society and way of life is undergoing radical transformation. Toffler (1990) calls it a "powershift." Tensions felt today by higher education are true manifestations of this larger societal transformation — with colleges and universities struggling to respond to this challenge. In the current climate we hear with increasingly frequency and growing emotion serious dissatisfaction being expressed about American higher education. For example, in 1992 there was a spate of stories in mass media outlets (e.g., Boston Globe, Chicago Tribune, Forbes, Times, and even the TV tabloid Inside Edition) that drew similarly pessimistic conclusions about higher education's capacity to deal with its current challenges. Legislators, students, parents, employers, and other stakeholders often imply that higher education is doing "too little, too late" (NASULGC, 1999a).

In addition to these external conclusions, in 1993 the Wingspread Group, a blue-ribbon study group on higher education, issued a strongly worded challenge to the higher education community, beginning its report with these words:

A disturbing and dangerous mismatch exists between what American society needs of higher education and what it is receiving...What does our society need from higher education? It needs stronger, more vital forms of community. It needs an informed and involved citizenry. Above all, it needs a commitment to the idea that all Americans have an opportunity to develop their talents to the fullest. Higher education is not meeting these imperatives. (pp. 1-4)

That report, among others (Astin, 1993; Boyer, 1990; Cole, 1994; NASULGC, 1998a, 1998b, 1999a, 1999b, 2000a, 2000b), challenges many of the constituencies within the higher education community to rethink priorities while at the same time studying the complex political and societal forces that bear on their institutions. Many shaping influences are external to the university: an increasingly diverse student population; a technological transformation that fosters an entrepreneurial for-profit industry around higher education; and a movement to make postsecondary education more global. This may all seem daunting, yet one of the most pressing issues lies directly within our control: a growing public dissatisfaction with the attention that institutions of higher education provide to stakeholder needs. These forces have led to an institutional environment dominated by claims for public accountability and more responsibility of institutions of higher education (Berdahl & McConnell, 1994; Clark, 1998; Dill & Sporn, 1995b; Ewell, 1991; Gumport & Sporn, 1999; Leslie & Fretwell, 1996; Rhoades, 1995; Slaughter & Leslie, 1997, Trow, 1998).
These new environmental demands are triggering internal responses from universities concerning restructuring, retrenchment and reengineering. In general, these actions address issues of institutional responsiveness and quality through a more careful scrutiny of existing programs and administrative processes. Universities, colleges, academic department, programs, faculty, administration, and leadership, as well as institutional stakeholders are all part of this new organizational design deliberation for better efficiency and effectiveness (Clark, 1998; Dill & Sporn, 1995b; Gumport & Sporn, 1999; Leslie & Fretwell, 1996; Slaughter & Leslie, 1997). The question thus becomes, “How does academic leadership address the pragmatic realities facing higher education today without losing sight of stakeholder needs?” One answer is to go beyond outreach and service to what the Kellogg Commission (NASULGC, 1999 b) defines as “institutional engagement.”

The Kellogg Commission’s concept of institutional engagement has come to light at a critical moment. Although institutional engagement is not new (in fact, it is the circumstances that led to passage of the Morrill Act of 1862— the federal legislation that established the land-grant university), it is experiencing a renaissance, particularly as it responds to the combination of internal and external pressures to better meet the needs of stakeholder and community expectations as they struggle with the changing nature of higher education.

2.5 Why is Adaptation for Engagement Important?

As many campuses work to determine the needed adaptations, others are just beginning to ask why the adaptation for engagement is needed. Several recent policy studies in higher education create a compelling case for engagement adaptation within higher education. Three longitudinal research studies lay the foundation: Boyer’s (1990) classic report for the Carnegie Commission Scholarship Reconsidered: Priorities of the Professoriate; Astin’s (1993) data driven analysis, What Matters in College; and Pascarella and Terenzini’s (1991) How College Affects Students. Four commissioned studies advanced the discussion even further with recommendations and action plans: Involvement in Learning: Realizing the Potential of American Higher Education (National Institutions of Education, 1984), Returning to Our Roots (NASULGC, 1998a,b; 1999a, b; 2000 a, b); Powerful Partnerships: A Shared Responsibility for Learning (Joint Task Force on Student Learning, American Association for Higher Education, American College Personnel Association, National Association of Student Personnel Administrators, 1998); and The Academy in Transition: Contemporary Understandings of Liberal Education (Schneider and Shoenberg, 1998).
2.6 Longitudinal Studies

The longitudinal studies (Boyer, 1990; Astin, 1993; Pascarella & Terenzini, 1991) offer a descriptive picture of the state of higher education at the time this research study was being conducted. The architects of these studies went beyond reporting their findings and presented implications that still have an impact on the thinking and planning of higher education.

2.6.1 Scholarship Reconsidered: Priorities of the Professoriate

Since it was first published in 1990, the Boyer Report (Scholarship Reconsidered) has become a focal point for faculty discussions across the nation. In this regard, Boyer looked at the full range of activities that constitute the work of the professoriate in a way that looked at the commonalities that unify the disciplines rather than the things that keep them isolated from one another.

What we now have is a more restricted view of scholarship, one that limits it to a hierarchy of functions. Basic research has come to be viewed as the first and most essential form of scholarly activity, with other functions flowing from it. Scholars are academics who conduct research, publish, and then perhaps convey their knowledge to students or apply what they have learned. (p. 15)

The report and its recommendations were synthesized from a careful analysis of the 1989 National Survey of Faculty and were carefully considered in light of the experience, insight and reflection of Boyer's long career in higher education. In just 4-5 pages in the 1990 report, Boyer put into words what the collective conscience of faculty already knew but had somehow forgotten.

We believe the time has come to move beyond the tired old "teaching versus research" debate and give the familiar and honorable term "scholarship" a broader, more capacious meaning, one that brings legitimacy to the full scope of academic work...Specifically, we conclude that the work of the professoriate might be thought of as having four separate, yet overlapping, functions. These are: the scholarship of discovery; the scholarship of integration; the scholarship of application; and the scholarship of teaching. (p. 16)

Boyer's new paradigm of four equal scholarships endeavored to create a more inclusive definition of what it means to be a scholar. The scholarship of discovery is most recognizable as "research," the search for knowledge for its own sake, and the principled mode of inquiry that characterizes this quest. The scholarship of integration is the making informed connections across
the disciplines to understand the broad contexts in which one's work fits. The scholarship of application seeks to bridge the gap between the worlds inside and outside the academy, and to center this deeply and squarely within the context of disciplinary understanding. The scholarship of teaching seeks to bridge the distance between interpersonal and intrapersonal understanding, doing so in a way that is fully informed by the scholarships of discovery, integration, and application as crafted by a study of the discipline.

Boyer's analysis has far-reaching implications. The Carnegie Commission report attacked problems head on making clear recommendations for realigning scholarship in American colleges and universities, thereby giving a boost to higher education adaptations who where prepared to implement new models of the university as a community of inquiry. In this community the new American scholar participates not as an Emersonian individualist, but as a committed colleague of stakeholders, all of whom engaged in what Gerhard Caspar, President of Stanford University described as the defining activity of research and teaching—the search for knowledge and the spirit of inquiry.

Boyer's taxonomy serves as a substantial reminder that scholarship can be displayed and put to work in a variety of contexts, both esoteric and practical, all with equal validity. It remains clear, however, that our collective view of the nature of scholarship will continue to evolve as we are increasingly challenged to comprehend not only the natural and interrelated complexities of higher education, but also the complications that society itself has imposed on higher education. The contribution of this report is that it opens the door for the experimental models of scholarship to enter the mainstream of American higher education.

2.6.2 What Matters in College

In his comprehensive study, Astin analyzed responses from more than twenty thousand students, twenty-five thousand faculty members, and two hundred institutions of higher education, and presented a rich analytical framework to assess the impact of college on students. This study is unusual for many reasons, not the least of which is that Astin identified 190 institutional characteristics and described how each influenced student growth and development, maturity, values and beliefs, career aspirations, and overall satisfaction with college.

The recommendations that came from this exhaustive meta-analysis has significantly influenced the development and evolution of higher education over the past decade. The breadth of this study strengthened the resolve of forward-thinking campuses to dare to put their theories to the test in community/campus based programming.
2.6.3 How College Affects Students

In the most comprehensive and authoritative compendium of the research on the outcomes of a college education, Pascarella and Terenzini reviewed over 2,600 studies on the effects of college on a variety of aspects of student development and life choices. In the preface of this study, Pascarella and Terenzini reveal the guiding question behind their study: "Does college make a difference?" (p. xvi). Pascarella and Terrenzini respond to their own question, ironically noting, after their extensive culling of more than 2,600 studies, "the appeal of its straightforwardness notwithstanding, the question is really a naive one" (p. xvi). "Naive" because the simplicity of the question as posed disguised the complexity of the underlying questions (listed on pp. 7-8) that could only be answered by an analysis of research when unpacked, teased out, and answered separately — in nearly 900 pages.

Pascarella and Terenzini provide a thorough review of the effect of college on the development of the following components: verbal skills; quantitative skills; knowledge of specific subject matter; general cognitive competence and cognitive skills; self-conceptions and self-evaluations; psychosocial characteristics and personality traits; attitudes and values; moral reasoning, moral judgment, and moral behavior; educational attainment; career choice and career attainment; economic returns and benefits; and non-monetary benefits, life satisfaction, and quality of life. In each area, the authors consider the evidence that individuals change during the time in which they are attending college, and whether this change or development during college is the result of college attendance. They also considered whether different kinds of post-secondary institutions have a differential influence on student change or development, as well as also examining the effects of different experiences within the same institution.

The last chapter of the book is devoted to providing direction for educators on how to best shape the educational and interpersonal settings of their campuses to promote learning and achievement of their institution's goals, and ultimately how to allow students to gain more benefit from their college experience.

The conclusions reached in this book are sometimes surprising and sometimes what one would expect. The review’s appeal lies in the fact that the authors attempt to put theory into practice by providing their reader with some guidance as to what leads to the best educational experience for the student. What is particularly interesting about the authors' snapshot of such a complex, multifaceted study, is that most colleges do indeed affect individuals in a manner that allows them to become more effective members of their society.
2.7 Policy Studies

These four grounded research studies have built a solid base for subsequent policy analyses sponsored by independent foundations and nonprofit associations. The policy reports reviewed next describe a process of reinventing and transforming higher education institutions to create new types of learning environments that engage its stakeholders. In several instances, the reports specifically recommended organizing stakeholders and faculty into communities of learners and to establish benchmarks to ensure institutional engagement.

2.7.1 Involvement in Learning: Realizing the Potential of American Higher Education

In 1984, The National Institute of Education (NIE), U.S. Department of Education, issued the results of one of the earliest study groups that were charged to examine conditions of excellence in American higher education. In the report, the group issued a warning that higher education was failing to realize its potential and outlined the basic understanding that excellence in higher education was centered on student learning (p. v). The rapid expansion of higher education, followed by a period of tightening resources, resulted in a gap between the expectations and realities of student learning, curricular coherence, facilities, faculty morale, and academic standards. Institutions ignored important information on student achievement and retention, and failed to meet national expectations for higher education.

This report recognized that learning communities increased opportunities for dialogue between students and teachers and promoted more active modes of learning. The authors added that learning community experiences were even more critical at larger institutions, where students have a great need for meaningful academic identifications.

2.7.2 Returning to Our Roots

In 1995, convinced that the United States and its state and land-grant institutions were facing structural changes as deep and significant as any in history, the National Association of State Universities and Land-Grant Colleges sought the support of the W.K. Kellogg Foundation in order to better examine the future of public higher education. Against the backdrop of growing public frustration, the Commission on the Future of State and Land-Grant Universities concluded that it is time “to go beyond outreach and service to...engagement” (NASULGC, 1999a) calling for a
redesigning of the teaching, research, extension and service functions to become even more “sympathetically and productively involved with their communities, however community may be defined” (NASULGC, 1999a).

With its six reports on the future of state and land-grant universities (Returning to Our Roots: the Student Experience, 1998a; Returning to Our Roots: Student Access, 1998b; Returning to Our Roots: the Engaged Institution, 1999a; Returning to Our Roots: A Learning Society, 1999b; Returning to Our Roots: Toward a Coherent Campus Culture, 2000a; and Renewing the Covenant: Learning, Discovery, and Engagement in a New Age and Different World, 2000b), the Kellogg Commission encourages a renewed commitment within American public higher education to the new tri-partite mission of learning, discovery and engagement in the public interest. The reports outlined a commitment to enhance 1) educational opportunities that are genuinely equal; 2) excellence across the board in curricula; 3) civic purpose of higher learning; 4) complex and broad-based agendas for discovery, research, and graduate education; 5) active engagement that brings the resources of an institution to bear in a coherent way on community, state, national, and international needs; and 6) accountability that is public and effective.

The idea of institutional adaptation described in the Returning to Our Roots reflects all the common understanding that permeates the discussion in this study:

If the recommendations in our prior reports are heeded, the shape of today’s university will still be visible in a new century, but it will have been transformed in many ways major and minor. It will truly be a new kind of public institution, one that is as much a first-rate student university as it is a first-rate research university, one that provides access to success to a much more diverse student population as easily as it reaches out to engage the larger community. Perhaps most significantly, this new university will be the engine of lifelong learning in the United States, because it will have reinvented its organizational structures and re-examined its cultural norms in pursuit of a learning society. (2000b, p. viii)

2.7.3 Powerful Partnerships: A Shared Responsibility for Learning

Modeling the collaboration that is recommended in this task force report, the American Association of Higher Education, the American College Personnel Association, and the National Association of Student Personnel Administrators advocated for a new relationship of collaboration among various stakeholders within institutions of higher education. They challenged the higher education community to “share responsibly for learning.” The task force offered ten learning principles and recommendations for collaborative action supported by empirically validated illustrations and examples:
1. Learning is fundamentally about making and maintaining connections.
2. Learning is enhanced by taking place in the context of a compelling situation that balances challenge and opportunity.
3. Learning is an active search for meaning by the learner.
4. Learning is developmental, a cumulative process involving the whole person.
5. Learning is done by individuals who are intrinsically tied to others as social beings.
6. Learning is strongly affected by the educational climate in which it takes place.
7. Learning requires frequent feedback if it is to be sustained.
8. Much learning takes place informally and incidentally.
9. Learning is grounded in particular contexts and individual experiences.
10. Learning involves the ability of individuals to monitor their own learning.

The recommendations that flow from these principles provide a blueprint for institutions that want to move forward with action plans, and further, the examples create a concrete touchstone that grounds this report in reality. For example, under principle 5, the task force recommend that the individual and social nature of learning has the potential for creating powerful learning environments that:

- take into account students' personal histories and common cultures;
- feature opportunities for cooperative learning, study, and shared research;
- cultivate a climate in which students see themselves as part of an inclusive community;
- use the residential experience as a resource for collaborative learning and for integrating social and academic life;
- use school, work, home, and community as resources for collaborative learning and for integrating social and academic life; and
- give students a chance to fathom and appreciate human differences.

The Partnerships document moves beyond the research studies of the early 1990s into policy recommendations for rethinking campus structures. Such recommendations would have been premature ten years before, but the campus climate has changed dramatically. Collaboration across divisions on a campus are no longer seen as threatening. In fact, the advocates of these collaborations make a strong case that for all the right reasons — idealistic (engaged institutions) and programmatic (budgetary) — these collaborations create a campus community where the whole is greater than the sum of the parts.
2.7.4 Contemporary Understandings of Liberal Education

The first publication in a new series exploring "The Academy in Transition" is Contemporary Understandings of Liberal Education (Schneider & Shoenberg, 1998). Framed as a stimulus to campus discussion, the paper maps national trends in educational adaptation and examines their implications for the content and organization of higher learning.

The Association of American Colleges and Universities encourages faculty members and academic leaders to use this paper as a point of departure for their own analysis of the direction of educational change. It is hoped that the authors' arguments will inspire faculty members and academic leaders to think broadly and creatively about the educational communities we inherit as well as about the educational communities we want to create.

Yet, according to Schneider and Shoenberg (1998), old habits are hard to break. Institutions of higher education will have to take a hard look at their traditional organizations, blurring the lines between general education and the major, rewarding faculty for collaborations, and recognizing their efforts in transforming curricula and teaching, in addition to their traditional research.

2.8 Impact of Higher Education Characteristics on Institutional Engagement

Throughout history, higher education has proven to be resilient in dealing with and conforming to socioeconomic and political change. Nevertheless, as the longitudinal and policy studies conclude, institutions of higher education around the country are facing unprecedented changes as the new millennium unfolds. Scholars and administrators are cautioning about misfits between external demands and current responses to change (Becher & Kogean, 1992; Cameron, 1984; Cameron & Tschirhart, 1992; Clark, 1998; Dill & Sporn, 1995b; Gumport & Sporn, 1999; Leslie & Fretwell, 1996; NASULGC, 1999; Peterson & Dill, 1997; Slaughter & Leslie, 1997; Sporn, 1995).

The literature highlights that universities have unique organizational characteristics that have the potential of having a significant impact on organizational change and institutional engagement. Like other bureaucratic organizations, universities have goals, hierarchical systems and structures, officials who carry out specific duties, decision-making processes that set institutional policy, and a bureaucratic administration that handles routine business. But they also exhibit some critical distinguishing characteristics that impact their decision processes: 1) goal ambiguity, 2) client service, 3) task complexity, 4) professionalism and administrative values, 5) environmental vulnerability, 6) management, and 7) leadership roles (Baldridge, 1983; Baldridge, et al., 1977; Dill, 1992b).
2.8.1  **Goal Ambiguity**

Ambiguous multifaceted goals are one of the major characteristics of academic organizations. Very often institutional goals target very diverse groups of external and internal constituencies. Rarely do they have one single mission. Different scholars have analyzed the goals of faculty and administrators of universities at various time periods (Altbach, 1994; Kogan & El-Khawas, 1994; Metzger, 1987; Peterson & White, 1992). The results show that almost all goals are considered important, particularly academic freedom. Baldridge (1983) stated that “People seem to feel that universities should be doing almost everything” (p. 3).

What are the goals of a university? High quality teaching, relevant basic and applied research, service to the local community, efficient and effective administration, solutions to social problems and internal cooperation and mobility of students and staff. This list could be extended depending on the college and university and the specific state. What these goals indicate, nevertheless, is that in contrast to private businesses, academic organizations are essentially ‘non-profit’ oriented (Oster, 1995; Power & Friedkin, 1987). Such heterogeneous goals often result in conflict.

Goals at academic organizations are contested. As long as goals are stated broadly in the abstract and somewhat ambiguously it is easy to reach agreement among the diverse members of the university community. At a more operational level, however, disagreement arises. Baldridge (1983) concludes “this link between clarity and conflict may help explain the prevalence of meaningless rhetoric and academic speeches and policy statements” (p. 3).

**2.8.2 Client Service**

Like schools, hospitals, and welfare agencies, colleges and universities are held responsible for serving their clients well (Horak, 1997). People from all parts of society enter the university with the goal of receiving good education that will propel them in their careers; communities seek advice to specific needs; and organizations pay top dollar for state-of-the-art research of various topics. In this sense, universities are people-processing institutions. “This is an extremely important characteristics, for the clients demand and often obtain significant input into institutional decision-making process” (Baldridge, 1983, p.4).

The trend towards increased market-orientation in the 1990s underscores the importance of client service. Restructuring strategies and resource allocation are moving universities closer to the
market. This translates into internal policies to support departments, institutions and faculty who bring in external funds and serve clients well. While Colleges of Agriculture have a long standing tradition in this arena, other colleges like engineering and business have gained new prominence in this domain (Rhoades, 1995; Slaughter, 1995).

This shift towards a client-orientation has also created conflicts. Faculty work has been moving towards client-service, but excellent teaching has also become an important if not necessary factor to receive tenure even at elite institutions. At many colleges and universities, teaching is evaluated not only by peers but also by students according to their classroom experience. Very often it is not clear if the tools for this evaluation are appropriate and are capable of measuring the right things. Nevertheless, faculty has to find a compromise between being excellent teachers and respected researchers. (Boyer, 1990). On the other hand, research has to be more applied, that is more oriented towards solving mainly the economic problems of businesses and society. Research has to be a major source of additional funding for the universities. It appears that (through overhead costs?) the university profits from entrepreneurial faculty members. Additionally, large research grants are yet another major indicator for a faculty member’s promotion and tenure decision.

2.8.3 Task Complexity

Faculty in academic institutions are required to manage a complex agenda, covering teaching, research and service. Research involves creativity and problem-solving techniques. Teaching needs good rhetorical and interpersonal skills. Service calls for an ability to sense and serve stakeholder needs well.

Administration requires a somewhat different agenda, with emphasis on management and leadership. University management also calls for good cultural sensitivity in order to deal successfully with differences between “academic and administrative viewpoints, working styles, goals, and procedures” (Baldridge, 1983, p. 5).

External constituencies compound the complexity of tasks. Colleges and universities serve clients with diverse and specific demands and need to be free to respond accordingly. For example, various services are required to serve new students, international visitors, companies in the state, community members, and research-granting agencies. Expertise is often dispersed within the institution and it is not clear how to access it. Consequently, “if at times colleges and universities do not know clearly what they are trying to do, they often do not know how to do it either” (Baldridge, 1983, p. 5).
2.8.4 Professionalism and Administrative Values

So far colleges and universities have been characterized by goal ambiguity, client service and task complexity. Within this context, hiring faculty members and developing an administrative structure has been typical for departments within an institution. Although the focus on teaching and research might be completely different at different types of universities (e.g. research university, community college, vocational training school), there always exists an administrative and academic structure that contains many personnel with divergent values and norms.

Research on academic culture and professional versus administrative values has shown conflicting subcultures of faculty and administration (as well as student in cases where they are interpreted as organizational members). Administration assumes the power of hierarchy. On the other hand, professional authority is based on knowledge. Professionals (i.e. faculty) can only work effectively if free from pressure and constraints. Administration works according to bureaucratic rules and regulations and by rank (Becher, 1989; Becher & Kogan, 1992; Blau, 1994; Clark, 1970; Kerr, 1995):

1. Professionals demand autonomy in their work. Freedom in teaching and research has been a traditional norm in colleges and universities. It implies that faculty is free to choose a field of research and their method of inquiry. For teaching this means autonomy in the design of the structure of courses.

2. Professionals have divided loyalties. Very often faculty members have split loyalties to their discipline, field, and institution. Conflicting orientations to the standards of the scientific community and to institutional and departmental regulations can be the result.

3. There are strong tensions between professional values and bureaucratic expectations in an organization. The production of knowledge and the management of the institution require very different strategies and activities. Consequently, problems arise from changing environmental demands for better accountability of institutions.

4. Professionals demand peer evaluation of their work. Faculty at colleges and universities believe mostly in the concept of peer review for an objective evaluation of their performance in teaching and research. It is hard to accept other forms of feedback like student ratings, rankings by journals, or government indicators. Faculty rely more on refereed journal articles, citation indexes or groups of peers visiting their classes.
All of these characteristics undercut the traditional norms of a bureaucracy, rejecting its hierarchy, control structure and management style in a professional organization. But colleges and universities also tend to have fragmented professional staffs. Here is how Clark (1977) described the situation thirty years ago and it seems that there is no reason to change his assessment:

The principle is this: where professional influence is higher and there is one dominant professional group, the organization will be integrated by the imposition of professional standards. Where professional influence is higher and there are a number of professional groups, the organization will split by professionalism. The university and the large college are fractured by expertness, not unified by it. The sheer variety supports the tendency of authority to diffuse toward quasi-autonomous clusters. (Clark, 1977, p. 73)

Administrators are in charge of support activities, i.e., they administer means to the major activities carried out by professionals. In many cases, especially in prestigious research-oriented institutions, professionals have significant authority and responsibility for most decisions regarding their area and the institution. Administrators are criticized for being too committed to efficiency and the market. Over influence of administration undermines the goals under which the organization has been established and endangers conditions under which knowledge can be created and institutionalized (Kogan, 1999; Trow, 1994).

Under postindustrial environment of the 1990s, however, administration has been gaining importance and the power of officials and administrators has been increasing (Gumport & Sporn, 1999). Clark (1995a) stated “strengthened university administration does not imply bureaucratic dominance. It is a way to turn loose the dynamism that is potentially available in each disciplinary field, as academic professionals attempt to increase their comparative effectiveness in doing research, teaching, and providing learning activities for students (p.166).”

2.8.5 Environmental Vulnerability

The degree of autonomy of organizations in deciding and pursuing goals has a major impact on their functioning (Berdahl & McConnell, 1994; McConnell, 1971). In a market economy there exists a continuum of autonomy in different types of organizations. Business firms and industries are relatively free to redefine goals and strategies since they have to respond to customers and market demands. On the other hand, government-controlled institutions like public schools are constantly scrutinized by the people they serve (Baldrige, 1983).

Colleges and universities have been increasingly vulnerable to their external environment over the last twenty years (Clark, 1995a; Dill & Sporn, 1995a; Peterson & Dill, 1997; Sporn, 1995).
Increasingly, academic institutions are accustomed to dealing with diverging external forces and interest groups with conflicting values. It is this external environment that is requiring the institutions to respond (Dill, 1997a, 1997b; Dill & Sporn, 1995a). Environmental vulnerability is an inescapable reality of colleges and universities. Insulation from environmental demands and lack of accountability are becoming a thing of the past. In the 1970s, the impact of external pressures on governance of academic organizations was described as follows and still seems valid:

When professional organizations are well insulated from the pressures of the outside environment, then professional values, norms and work definitions play a dominant role in shaping the character of the organization. On the other hand, when strong external pressure is applied to college and universities, the operating autonomy of the academic professionals is seriously reduced. The faculty and administrator lose some control over the curriculum, the goals, and the daily operation of the institution. Under these circumstances, the academic professionals are frequently reduced to the role of hired employees doing the bidding of bureaucratic managers. (Baldridge et al., 1977, p. 6)

Currently, developments in colleges and universities point to this pattern. Closeness to mission and market are major factors for resources allocation to institutions and departments (Leslie, 1995; Slaughter, 1995). The curriculum is also moving away from general undergraduate education to specialized vocation training (Clark, 1993; Clark, 1995b; Trow, 1983).

2.8.6 Organizational Management

Problems of organization and management arise from the dualism of controls (Bess, 1984; Birnbaum, 1989; Dill, 1992a, 1992b) at most colleges and universities. Compared to business firms, universities have two parallel systems of control, based on very different goals. While the faculty is mainly concerned with the pursuit of and dissemination of knowledge and truth, the administration has to aim at efficiency and effeteness of the whole institution/department. This tension increases with resource scarcity and uncertainty about the future. In general, it appears that there is a shifting of authority from faculty to administration.

In difficult times of heavy competition, clarity and agreement on the organizational mission are usually considered fundamental principles of establishing systems of accountability (Dill, 1997b). University management tries to develop a mission, strategic plans and agreed-upon objectives. But with the complexity of academic and administrative goals and with little agreement on priorities and measures of goal achievement, it is hard to develop coherent and consistent mission statements. Teaching, research, and service — the dominant three overall goals at colleges and universities — are
too broad to serve as starting points for mission statements. Birnbaum (1989) stated, “Although some
have suggested that higher education institutions could be managed more effectively if their missions
were clarified. This has proved to be impossible to do in larger and more complex organizations. A
more sensible suggestion might be to redefine management so that it can function usefully within the
context of conflicting objectives” (p. 11).

Yet another problem of higher education and management is the distribution of institutional
power (Becher, 1987; Lazerson, 1997; Weick, 1983). Organizations like colleges and universities
rely on expert power (i.e. faculty) that creates commitment among participants through shared
symbols (Dill, 1982; Dill & Helm, 1988; Hardy, 1990). This means that many faculty members are
less motivated by salary incentives than by internalized principles of academic freedom and ethical
behavior, and by communication with colleagues with similar values. Hence, faculty behavior cannot
be influenced significantly through business firm standards like money. Birnbaum (1989) declared,
“The autonomous focus of professionals to accept administrative authority requires that higher
education take different approach to the problems of management and governance” (p. 14).

2.8.7 Leadership Roles

The unique characteristics of universities make the definition of leadership roles difficult.
The existing dualism of control, unclear and diverse goals, and diverging administrative and academic
values influence the relationship between leaders and those presumably to be led. In most institutions
it might be more appropriate to consider faculty as constituents than as followers. In any case,
leadership roles need to be defined for deans and department executive officers in order to have a
clearer idea about their function and their responsibilities. Leadership without institutional support
can trigger serious problems for academic organizations (Bensimon & Neumann, 1993; Bensimon,

The literature on higher education deals with issues of leadership in the form of trait theories,
power and influence theories, behavioral theories, contingency theories, cultural and symbolic
theories, and cognitive theories (Bensimon & Neumann, 1993; Bensimon et al., 1989; Birnbaum,
1992; Bowen & Shapiro, 1998; Cameron & Ulrich, 1986; Cohen & March, 1974; Fincher, 1996;
Vroom, 1983). One example is the social exchange theory. “In essence, the group agrees to
collectively reduce its own autonomy and to accept the authority of the leader in exchange for the
rewards and benefits (social approval, financial benefits, competitive advantages) (Birnbaum, 1989,
p. 23).
Leaders can be either transactional or transformational depending on how they manage change and expectations. Transactional leaders respond to institutional needs and emphasize processes of goal achievement. Transformational leaders play a more active role in changing expectations by focusing on outcomes and the resultant advantages for the whole institution (Cameron & Ulrich, 1986). Leadership behavior depends on many factors like personal traits, organizational culture and environmental demands (Fincher, 1996; Rhoades, 1996).

If colleges and universities are interpreted as organizational cultures with certain values and norms, then leadership can be seen as symbolic (Cohen & March, 1974; Dill, 1982). Deans and department executive officers have the task of managing the organizational culture. According to Birnbaum (1989), "the professional nature of colleges and universities may make the management of culture difficult if not impossible, and the role of leaders may therefore be more symbolic than real. Presidents may have relatively little influence over outcomes when compared with other forces that affect organizational functioning (p. 24)."

The influence of deans and department executive officers is also constrained by several internal and external factors (Whetten & Cameron, 1985). According to Birnbaum (1989) academic leaders do make a difference.

Complex social organizations cannot function effectively over the long-term without leaders to coordinate their activities, represent them to their various publics, and symbolize the embodiment of institutional purpose. Moreover, if these leaders are to avoid conspicuous failure, they must have a high level of technical competence, an understanding of the nature of higher education in general and the culture of the individual institution in particular, and skills required to effectively interact with external constituencies. (p. 26)

Especially in times of environmental turbulence and the need for institutional adaptation, effective institutional leadership is required (Gmelch & Miskin, 1993).

2.9 Summary of the Impact of Organizational Characteristics on Engagement

Higher education has a long and rich history. It is clear from the aforementioned literature that the organizational characteristics will have a significant impact on institutional engagement. These characteristics certainly apply to this study, even if they are not its central focus.

This literature review led the researcher’s understanding of the multifaceted issues impacting organizational adaptation and institutional engagement. The challenges presented by these characteristics was accounted for in the methodology. However, the researcher could also expect the
builders and maintainers of the institutional engagement to be able to understand and explain both their commitment to and processes for advancing the engagement initiative. This combination (commitment knowledge and process knowledge) supported the choice of the College of Agriculture faculty, staff and administration as the population for this study. The following sections build a conceptual framework used to explore the commitment to the basic idea of engagement within the College of Agriculture.

2.10 Conceptual Framework of Study

The purpose of this research was to use College of Agriculture internal stakeholders (faculty, staff and administration) as a starting point to better understand the building and maintenance processes of institutional engagement in general. As noted in the literature review above, the examination of organizational adaptation or development processes in higher education is not unique. A great deal of effort has been placed into researching and documenting the organizational adaptation process and specific higher education challenges within adaptation research. The body of research on organizational adaptation and complexity, in conjunction with literature on higher education longitudinal and policy studies, provided a significant amount of background for this study.

However, as stated in Chapter 1, higher education management and leadership present a unique challenge for builders and managers of the engagement agenda within Colleges of Agriculture. Contending that higher education is a complex adaptive system provides a unique opportunity to look into the challenges and opportunities of moving forward with the development of institutional engagement within Colleges of Agriculture. Using complexity theory as the underlying theoretical framework for this research, specifically Holland's (1995) performance system of agents, the researcher constructed a conceptual framework for the study. This framework, represented in figure 2-1, served as the starting point to understanding the engagement agenda set forth by the Kellogg Commission (NASULGC, 1999a). Existing theory from organizational adaptation research and higher education adaptations were incorporated into the complexity foundation that grounded the conceptual framework. The final construct served as the organizing metaphor for the study, its research foundation as well as the mechanism used to inform the methodology. This section presents a broad overview of the conceptual framework followed by in-depth discussions of the framework's component literatures.
The major components of the framework are:

- **Holland's performance system**: an overview model of organizations as detectors, rules and effectors. The performance system of an organization represents its internal model and the way the organization interacts with the environment (engagement).

- **Open systems theory**: general systems theory, with inputs, processes and outputs, provides a common starting point for understanding complex adaptive systems.

- **Knowledge and control**: what an organization can know, and the control of that organization on its environment are two of the major factors that impact the overall success of integrating the engagement agenda (i.e., meaning, existence, resources, structure, power and mission as outlined in [Terry, 1993]).

- **Engagement inputs**: the Engagement agenda set forth by the Kellogg Commission (NASULGC, 1999a) is central to this study, and a clearer understanding of the agents operating on the engagement process will clarify the types of inputs needed to ascertain both internal and external stakeholder needs as they relate to institutional engagement.

![Figure 2-1 Conceptual Framework](image)

The following sections of this chapter explore the literature used to construct this conceptual framework. This exploration begins with Holland's (1995) performance system and complexity theory.

### 2.11 Holland's Performance System and Complexity Research

Complexity Theory, and the notion of "complex adaptive systems" (Waldrop, 1992) provided the foundation for this study's conceptual framework. The following section presents a discussion of
complexity theory from its most abstract concepts to the specific portion of the theory used in this study, Holland's (1995) performance system.

In this work, the researcher views higher education as a complex adaptive system facing environmental challenges to which it has to respond in order to survive. Consequently, a complex adaptive systems perspective to understand the process of building and maintaining an "engaged institution" is implemented. With this approach the tools of analysis broaden to include factors that are located inside and outside academic institutions.

2.12 Attributes of Complex Adaptive Systems

The following discussion of complexity seeks to build towards a single aspect of complex adaptive systems, the performance system of agents. This component, while basic to the study of complexity, is only a small part of a larger body of research and theory. A funnel approach is used to place this "performance system" within the larger complexity research and generate context for the reader. This discussion begins with the broadest understanding of complex adaptive systems. Holland (1995) identified a series of properties and mechanisms that must exist within a complex adaptive system. Properties describe the environment, or larger system, whereas mechanisms are devices used by agents of a system to exist within, adapt to and modify this environment. Holland identified four properties that can describe any complex adaptive system. These are listed in Table 2-1. Holland then identifies and discusses three mechanisms used by agents (the inhabitants of the complex adaptive system). These are discussed in the Table 2-2.

2.13 Match of Attributes to Institutional Engagement

Table 2-3 represents how higher education can use Holland's attributes to describe its organizational structure and activities. Note that the purpose of this study was not focused upon the College of Agriculture environment itself, but on agents within the system, specifically its internal stakeholder agents (i.e. faculty, staff and administration) for integrating the engagement initiative.
Table 2-1: Holland's Properties of a Complex Adaptive System

<table>
<thead>
<tr>
<th>Property</th>
<th>Description of Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregation</td>
<td>The ability to group agents within a system into common categories. The ability of agents within a common category to act together to produce large effects or trends within a complex adaptive system</td>
</tr>
<tr>
<td>Nonlinearity</td>
<td>The underlying assumption that there is not a direct and easily predictable linear relationship between an agent's actions and the consequence of that action.</td>
</tr>
<tr>
<td>Flows</td>
<td>The notion that things can flow from one agent to another (one node to another). This &quot;thing&quot; is information (though it may be encoded in electrical impulses or chemical exchanges in the case of biology). This concept is vital in that it demonstrates that while agents may be autonomous, they can interact. Flows are the interactions.</td>
</tr>
<tr>
<td>Diversity</td>
<td>Agents within a given system will take on different forms to match the environment. Since the environment is changing, the array of agent forms will also change, but match the environment in some way.</td>
</tr>
</tbody>
</table>

Table 2-2: Holland's Mechanisms of Agents in a Complex Adaptive System

<table>
<thead>
<tr>
<th>Mechanism</th>
<th>Mechanism Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tagging</td>
<td>Mechanisms that agents utilize for aggregation and flows of information.</td>
</tr>
<tr>
<td>Internal Models</td>
<td>A representation of the environment used by an agent to anticipate and adapt to the environment.</td>
</tr>
<tr>
<td>Building Blocks</td>
<td>Components of internal models combined to build, test and re-build internal models.</td>
</tr>
</tbody>
</table>
Table 2-3: Higher Education Examples of Holland’s Complexity Attributes

<table>
<thead>
<tr>
<th>Property</th>
<th>Description of Property</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregation</td>
<td>Higher Education has been defined as a &quot;network of networks.&quot; This is an example of defining the system as an aggregation of its components (or agents).</td>
</tr>
<tr>
<td>Nonlinearity</td>
<td>The growth of the higher education itself demonstrates non-linearity. The populations within higher education are estimated to be growing exponentially.</td>
</tr>
<tr>
<td>Flows</td>
<td>Higher education is a network of flows that is communication/knowledge. The entire idea of higher education is for the flow of information (in the form of knowledge).</td>
</tr>
<tr>
<td>Diversity</td>
<td>There are institutional departments that seek to serve all types of populations, from agronomy to agricultural education entertainments. One of the commonly mentioned strengths of higher education is the diversity of information to be found.</td>
</tr>
<tr>
<td>Tagging</td>
<td>Functions of higher education can be defined as research, teaching and outreach. You can break down various aspects of an institution by these tags.</td>
</tr>
<tr>
<td>Internal Models</td>
<td>The Kellogg Commission Seven-Part Test of Engagement presented later in this chapter is an example of one organization's internal model used to anticipate the institutional engagement.</td>
</tr>
<tr>
<td>Building Blocks</td>
<td>Engagement is an example of a building block. It serves as an open standard that does not restrict innovation, but provides the basic foundation for new ideas and partnerships, two-way streets defined by mutual respect among the partners for what each brings to the table.</td>
</tr>
</tbody>
</table>

2.14 Holland’s Performance System

The discussion thus far has moved from the most abstract concepts of complex adaptive systems (properties) to the more specific (mechanisms). This section describes the most specific concepts in complexity, agents and their performance systems. Even at this level, descriptions and definitions will be broad. The goal of complexity theory, as with open systems theory, is to find commonality across many different environments. The researcher provides specific references to higher education so as to provide linkage for the reader to the subject at hand.

Holland (1995) declared that to describe an agent and discover its mechanisms is done by examining an agent’s "performance system" (p.87). This system describes an agent’s coping mechanism towards a complex adaptive system. This system has a set of detectors for assessing the
environment (gathering knowledge), a set of rules for reacting to environmental information, and a set of effectors for manipulating (engaging) the environment. It is this framework of detectors, rules and effectors (seen in figure 2-3) on which this study relied to elicit how institutions of higher education build and maintain institutional engagement.

As will be shown later in this chapter, the notion of detectors, rules and effectors is not an altogether new idea in the study of systems. These concepts are analogous with open systems theory's input, process and output and will be discussed in the next section.

2.14.1 Detectors

Holland describes the role of an agent's detectors as:

...[the mechanism used] to filter the torrent of information its environment produces. To describe this filtering operation, I adopt the common view that the environment conveys information to the agent via a set of detectors. (Holland 1995, p.44)

Detectors are the senses (the eyes and ears) of an agent. They are a series of selective sensors used to gather information. This implies some discrimination (not all information is absorbed).

There can be many types of detectors used to engage an institution with its stakeholders. Holland described the scope of detectors in the following quote:
An antibody employs detectors that depend on local arrays of chemical bonds, while an organism's detectors are best described in terms of its senses, and a business firm's detectors are usefully described in terms of the responsibilities of its various departments. In each instance there are interesting questions about particular mechanisms for extracting information from the environment... (Holland, 1995, p. 88)

Research question 1 (Is there a clear sense of what engagement means between various institutional stakeholders?) of this study sought to elicit these detectors within the context of building and maintaining institutional engagement.

2.14.2 Rules

Complexity theory spends a great deal of time on the rules used by agents. Much of complexity research is about how rules are created, re-used and passed on in complex adaptive systems. Holland spent a great deal of time on rules. Holland described two aspects of rules in regards to agents: a static set of rules as part of an agent's performance system, and the dynamic creation and testing of rules as part of what Holland (1995) called an agent's “credit-assignment algorithm” (pp. 49-60) and “rule-discovery algorithm” (pp. 60-87). While both static and dynamic rule discussions are important in the larger study of complex adaptive systems, this study concentrated on the static rules. The performance system is a point in time, and cannot be used to describe the dynamic and evolutionary effects of agents within a complex adaptive system. The researcher decided that while a longitudinal study could begin to capture the dynamic rule-making procedures, a baseline description of the present engagement activities and opportunities and internal engagement agents was needed. With static descriptions of organizations at one point in time, succeeding research can begin to judge the evolutionary effects of the complex environment of a College of Agriculture as it relates to the engagement agenda. However, a longitudinal study would not allow for the same depth of description needed to capture a point in time.

For the purpose of this study, the rules are descriptions of the process whereby detector input is prioritized and then acted upon to influence effectors. Given the population under investigation, College of Agriculture internal stakeholders (faculty, staff and administration), this process can be summarized as the steps, policies and actions taken to meet external and internal stakeholder needs to ensure an engaged institution. The rules are composed of a series of reactions to stimuli (detectors).

These actions are performed by the use of resources. Resources are the components of an agent that allow an agent to operate in the larger system. This is a very loosely defined term because every agent's resources are context sensitive. Resources were defined within the context of this study
to mean the people, programs, funds, and policies available to an agent to respond to stimuli from the
environment. The agent's detectors provide the stimuli for the rules, and effectors provide the
response to stimuli.

2.14.3 Effectors

Effectors “represent [an agent's ability] to act on its environment” (Holland, 1995, p. 88). These are an agent’s tools for interacting with other agents. In terms of higher education these effectors can be seen as the set of services, or skills, offered to users and other agents within a university, college or department. From a technical perspective these effectors could be research, teaching and outreach funds. A university, college or department may also define services in terms of community programming. For the purpose of this study specific effectors were determined inductively by means of participant observation (Waddington, 1994), brainstorming (Jones, 1992), document analysis (Hodder, 1994; Forster, 1994), think-aloud method (Nielsen & Mack, 1994); and question-asking (Johnson & Briggs, 1994).

2.15 Knowledge and Control

The conceptual framework utilizes two concepts from open systems theory, knowledge and control. These concepts informed the conceptual framework in two ways. First, these concepts grounded the conceptual framework within the higher education adaptation literature thus providing an "entry point" for those more familiar with higher education and adaptation concepts than complexity. Second, these two concepts were used to highlight the dilemmas present within higher education in relation to organizational adaptation thus reinforcing the inductive approach taken by the study. Buckland (1991) noted:

The notion of control is central to the study of systems. Control, however, may sometimes seem too strong a word in this context. What is of interest is what responses are made. How do parts of the system react to problems? How do the responses and interaction of parts combine to form the behavior of the whole? It is the process of response to stimuli that constitutes the means of change and adaptation by internal alteration, by changing relationships, or by influencing the external environment. (p.28)

In this quote, Buckland defines control as the reaction of a system to stimuli. For the purposes of this study, control was defined as the actions of a system, while knowledge was defined as the stimuli upon which these actions are based.
2.15.1 Knowledge

Buckland (1991) treated knowledge as a construct of evidence, thought and belief. It is that which a system or individual believes to be true. Knowledge can change over time or be reinforced by supporting evidence. Buckland also made a distinction between knowledge and recorded knowledge. Knowledge is (restricted for this study) the ability of an agent to obtain information on how, why, when, and where other agents are interacting with the environment (departmental administration). That is to say, it is the ability to gather and analyze information about trends and developments in the context of the system in question. These larger questions are characterized by the question of "what issues impact the process of building and maintaining institutional engagement?" This knowledge can be represented in the form of official reports such as log files, surveys, focus groups, or informally through general awareness of department stakeholders within an organization.

In this study, knowledge of the organization was defined as an organization's (agent's) detectors. What an organization knows was based on the information it received. The information an organization received was a product of its detectors.

2.15.2 Control

Buckland's notion of control has both an internal and external sense. That is, the ability of a system (or agent) to control itself (its component parts), and the ability of the agent to control its environment (other agents). Even Buckland conceded that "control" is often too strong a word. He referred to the ability of a system to influence its environment and organization.

The conceptual framework for this study incorporated these notions of control in both its rules (the system of responding to stimuli) and its effectors (the mechanisms used by an agent to affect its environment).

2.15.3 Management, Knowledge and Control

Several management approaches also assume varying degrees of knowledge and control. The research in the following section discusses, in complexity terms, the interaction of an agent with its environment. This discussion does not add so much to the conceptual framework as it discusses the overall uniqueness of organizational characteristics and the engagement initiative.
One extreme of a knowledge/control continuum is Weber's (1946) bureaucracy. In his work, Weber described a static environment where an organization, through strict control (hierarchical control), manages its services. Weber (1946, pp. 196-8) established five characteristics of a bureaucracy:

1. There is the principle of fixed and official jurisdictional areas, which are generally ordered by rules, that is, by laws of administrative regulations.
2. The principles of organizational hierarchy and of levels of graded authority mean a firmly ordered system of super and subordination in which there is supervision of the lower offices by higher ones.
3. The management of the modern organization is based upon written documents ('the files'), which are preserved in their original or draught form.
4. Management...usually presupposes thorough and expert training.
5. The management of the organization follows general rules, which are more or less stable, more or less exhaustive, and which can be learned.

In order for this system to work within an environment, one must assume both a high level of knowledge of the environment and a great deal of control over the environment. One can have great knowledge of the environment due to the environment's static nature. Further, Weber advocated a great deal of specialization to allow an even greater depth of knowledge on all facets of the organization and its interface to the environment. Weber then concluded that one can have knowledge and must have a rigid control structure (top down) that steers the organization. Given Weber's beliefs, builders and maintainers of institutional engagement can be seen to have few problems. Higher education systems (disciplines), like the larger system called the organization, like the still larger system called the environment, are predictable — and controllable. Senge (1990), on the other hand, presented the idea of the "learning organization." Senge called for an organization that is flexible and remains open to new ideas from the environment and from within the organization itself. He further called for an organization that exists in a sort of perpetual novelty, constantly innovating and adapting to the environment. This approach has been applied to the notion of education (Senge, et al. 2000). The logic would follow that systems must be evolutionary and flexible.

Placing Senge on a knowledge/control continuum, one can see that he assumed a good deal of knowledge of the environment (i.e., he emphasized the need for good organizational detectors). One must be aware of innovations to capitalize on them. However, this knowledge is certainly not as great as Weber's static environment. The main difference between Weber and Senge, however, is how they
redefine the role of control in management. Senge calls for less control in order to increase innovation and flexibility. The uncontrolled environment allows for novelty. Further, there is at the very least an implication that the environment cannot be controlled, why else would the organization need to be ready to change?

Ancona et al. (1996, p.6) characterized Senge’s perspective and others as the "New Model of Organizations." They described new features of the organization: networked, flat, flexible, and global. These new models are about reacting to an increasingly dynamic environment. Organizations are networked, flat, flexible, and global to allow themselves to change and adjust to changes faster and more effectively.

2.15.4 Implications of Knowledge and Control on this Study

This study sought to explore how Colleges of Agriculture internal stakeholders build and maintain engaged institutions. One of the primary reasons for this study is the fact that higher education has been called upon by the Kellogg Commission (NASULGC, 1999a) to increase stakeholder needs in an environment of little knowledge and control. From the literatures discussed (Buckland, 1991; Senge, 1990; Weber, 1946 and others) the importance of knowledge and control in the study of organizational adaptation is clear. It is also clear that the engagement agenda presents new wrinkles in these ideas by its extreme nature. This study explored these ideas by linking knowledge to detectors, external control to effectors, and internal control to rules. That is to say by describing a higher education detector, the research described the agent’s knowledge-gathering mechanisms. By describing an agent’s effectors, the research described an agent’s means of controlling its environment. Lastly, the rules, as defined in the conceptual framework, were equivalent to the internal control of an institution.

2.16 Institutional Engagement Inputs

The introductory sections alluded to the architectures of the Engagement Agenda — The Kellogg Commission on the Future of State and Land-Grant Universities. These architects for the future of state and land-grant universities provided what they call a seven-part test (NASULGC, 1999a, p. x) for institutional engagement. The Commission contends that these seven guiding characteristics seem to define an engaged institution. This ensuing section makes clear the underlying implications of this seven-part test (table 2-4 and also uses the characteristics to better define the
Table 2-4 Seven-Part Test

<table>
<thead>
<tr>
<th>Detector</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness</td>
<td>Responsible for ensuring that the institution’s internal stakeholders (faculty, staff, administration) are asking themselves periodically if they are listening to their communities, and stakeholders (internal and external) if their needs are being served with the programming and service provided.</td>
</tr>
<tr>
<td>Respect for Partners</td>
<td>Mainly encourages joint academic-community definitions of problems, solutions, and definitions of success.</td>
</tr>
<tr>
<td>Academic Neutrality</td>
<td>Asks whether outreach maintains the university in the role of natural facilitator and source of information when public policy issues, particularly contentious ones, are at stake.</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Ensures that the institution is equally accessible to all the constituencies of concern.</td>
</tr>
<tr>
<td>Integration</td>
<td>Monitors the process of integrating the institutions service mission with its responsibilities for developing intellectual capital and trained intelligence. This detector examines the availability of incentives to encourage internal stakeholders to commit to the engagement agenda.</td>
</tr>
<tr>
<td>Coordination</td>
<td>A corollary to integration, this coordination detector involves making sure that all stakeholders are aware of other agents within the complex system.</td>
</tr>
<tr>
<td>Resource Partnership</td>
<td>Asks whether the resources committed to the task are sufficient.</td>
</tr>
</tbody>
</table>

These detectors can be seen as a process for engaging all stakeholders of an institution. When the institution is responsive to its partners, it traverses the detectors from bottom to top. When resources are committed it traverses the detectors in the opposite direction from one to seven. Each detector transforms the institution, making it ready to become engaged by its stakeholders.

While this framework provided an excellent view of the characteristics (detectors), it could never be expected to provide the full view necessary to assist in the study of building and maintaining institutional engagement. The Kellogg Commission model focuses on external stakeholder interchange not the adaptation of the higher education system itself or the people who both direct or build the engagement process. The Kellogg Commission model was, therefore, used to represent...
issues concerning the mechanisms for gathering information from the environment and other agents within higher education.

2.17 The Human Action Model

The value of the Human Action Model (Terry, 1993) to institutional engagement is that it can make ambiguous, complex situations more clear. A thoughtful analysis, followed by an appropriate intervention strategy can help get a group working towards its goals once again. The model is an organizing framework. It is a structure that can be compared to a pair of eyeglasses. Using the Human Action Model creates a constant frame of reference to focus on any human act. The situation that may have been “fuzzy” before, becomes clearer.

The assumption of the model is that research can clarify problem situations by viewing them through six generic elements of human action: 1) existence, 2) resources, 3) structure, 4) power, 5) mission, and 6) meaning (table 2-5 defines each element). Terry (1993) contends that these elements are present in every act and are minimal in number, analytically distinguishable, inclusive, apply readily to real life situations, are always connected, and inform and enrich both the understanding of leadership and the action of leadership.

Once a human action has been identified, action takes place. The action ranges from no additional intervention necessary because the naming of the problem unlocks the barriers to progress, to in-depth leadership strategies being required. Once the analysis has been completed, the actions implemented, and the group is underway, it is important to reassess the elements of action and realign those now needing attention. This is the cycle of use of the Human Action Model. The six elements of Human Action can be visualized as a wheel as seen in figure 2-3.

The application of this theory to organizational adaptation and the engagement initiative can be further explained in an analogy. Think of the elements of human action as a set of lenses through which the world is ordered and assessed. The situation that may have been “fuzzy” before becomes clear. However, it is only clear when the proper lenses are in place to aid the sight. The proper prescription provides the viewer 20-20 vision, or when viewing institutional engagement and organizational situations, greater insight.
Table 2-5: Definition of Human Action Model Elements

<table>
<thead>
<tr>
<th>Element</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existence</td>
<td>A limiting and possibility term outlining that from which human action moves. In an organizational setting, this may be referred to as the setting.</td>
</tr>
<tr>
<td>Resources</td>
<td>A material term connoting that with which human action moves. In an organizational setting, this may be referred to as using resources.</td>
</tr>
<tr>
<td>Structure</td>
<td>A form and process term defining that through which human action moves. In an organizational setting this may be referred to as organizing form and process.</td>
</tr>
<tr>
<td>Power</td>
<td>An energy term signifying that by which human action moves. In an organizational setting, this may be referred to as using energy and power.</td>
</tr>
<tr>
<td>Mission</td>
<td>A direction term identifying that toward which human action moves. In an organizational setting, this may be referred to as knowing direction.</td>
</tr>
<tr>
<td>Meaning</td>
<td>A significance and sense giving term implying that for which human action moves. In an organizational setting, this may be referred to as valuing purpose.</td>
</tr>
</tbody>
</table>

Figure 2-3 Human Action Model
2.18 Summary

As this review of literature shows, a vast range of singular approaches and studies exists on the process of organizational adaptation. There are many streams of research, some of which are complementary to higher education. But no coherent body of literature — not to mention a common definition of adaptation and research design for studying higher education adaptation to enhance stakeholder engagement via internal stakeholders, especially academic leadership — has been developed thus far. As a main goal, this study unfolds propositions towards a theory of institutional engagement and leadership adaptation through theoretical and empirical work.

The literature was also used to develop, expand upon and illustrate a conceptual framework based on Holland's (1995) performance systems of agents. The conceptual framework, built from Holland's performance system embodies the researcher's beginning understanding of the process of building and maintaining and engaged institution. Complexity theory was framed in an open system theory context that expanded the concept of input, process and output. Organizational adaptation and management literature was also used to provide context for the conceptual framework and the inductive nature of this research. Lastly, engagement architectures were discussed as a means to increase the specificity of the conceptual framework's detector types. Detectors were refined by agent types (e.g., users, program builders, management providers, internal and external stakeholders).

In the next chapter, the conceptual framework further serves as the grounding for a method used to describe the detectors, rules and effectors of the agents. The empirical study of building and maintaining engaged institutions used the principles of grounded theory research — participant observation (Waddington, 1994), brainstorming (Jones, 1992), document analysis (Hodder, 1994; Forster, 1994), think-aloud method (Nielsen & Mack, 1994); question-asking (Johnson & Briggs, 1994), elite interviews (Marshall & Rossman, 1995). The general assumptions, methodology, research design, rationale for choosing the elite respondents, and the methods used are included in this description.
CHAPTER 3
METHODOLOGY AND RESEARCH DESIGN

3.1 Chapter Preview

The previous chapters outlined the scope of this study, the relationship of the investigation to existing research, and the conceptual framework used in this study. This chapter explores the research design and methodology implemented. This design sought to elicit the detectors, rules and effectors of an agent's (College of Agriculture internal stakeholders) performance system (Holland, 1995). It was the intention of the researcher to synthesize a larger meta-description or set of meta-descriptions from these College of Agriculture internal stakeholders. Meta-descriptions were a synthesis of patterns and commonalities among the College of Agriculture internal stakeholders investigated.

Because no established body of research could be tapped to explore these meta-descriptions and questions such as the changing nature of the engagement agenda, grounded theory methods were sought out. The following sections will: 1) describe what led to the use of the grounded theory method, 2) will then describe grounded theory, and 3) illustrate and qualify it through examples taken from its application in this study. After this exposition of grounded theory, the link between theory development and design practice will be outlined.

3.2 Overview of Method

I am not a creator. I am a swimmer and a dismisser of all irrelevancies. Everything we need to work with is around us, although most of it is initially confusing. To find order in what we experience, we must first inventory the total experiences, then temporarily set aside all irrelevancies. I merely separate out some local patterns from a confusing whole. The act is a dismissal of pressures. Flight was the discovery of the lift — not the push. (Weisbord, 1992)

This study used a set of grounded theory methods to elicit empirically-based inductive descriptions of engagement characteristics from elite College of Agriculture internal stakeholders. The methods included Internet open-ended questions, a Human Action Model Analytical Tool, document analysis (Hodder, 1994; Forster, 1994), participant observation (Waddington, 1994), brainstorming (Jones, 1992), think-aloud method (Nielsen & Mack, 1994), question-asking (Johnson & Briggs, 1994), and elite interviews (Marshall & Rossman, 1995). Grounded theory methods, as
discussed below, are appropriate to a study of institutional engagement due to both the dynamic nature of higher education, and the lack of guiding research.

Keeping to Susman (1983), the five phases to be conducted within each research cycle (Figure 3-1) provided a map of the methodological process. Initially, a problem was identified and data were collected for the more detailed diagnosis. This was followed by a collective postulation of several possible solutions, from which a plan of action emerged and was implemented. Data on the results of the intervention were collected and analyzed, and the findings were interpreted in light of how successful the action had been. At this point, the problem was re-assessed and the process began another cycle. This process continued until the problem was resolved. The specific methods used are represented in the table 3-1. While table 3-2 outlines the time-line for the study with outcomes at each step.

![Figure 3-1: Research Cycle (adapted from Susman 1983)](image-url)
Table 3-1: Steps of the Study Methodology

<table>
<thead>
<tr>
<th>Phase</th>
<th>Step in Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diagnosing</td>
<td>1. Construction of an institutional engagement indicator list.</td>
<td>The researcher first constructed a list of institutional engagement indicators. Descriptions of each indicator were developed utilizing the Kellogg Commission (NASALGC, 1999a) seven-part test of engagement. Initial review of organizational change literature.</td>
</tr>
<tr>
<td></td>
<td>2. Expert panel criteria development</td>
<td>An expert panel consisting of representatives the College of Agriculture, and other experts in higher education then determined selection criteria for participants (N=7).</td>
</tr>
<tr>
<td></td>
<td>3. Expert panel participant selection</td>
<td>The Expert Panel then chose elite respondents consisting of faculty, staff and administrators within the College of Agriculture (N=410).</td>
</tr>
<tr>
<td>Planning</td>
<td>4. Participants contact for elite</td>
<td>The selected participants were contacted and an elite (a key informant that represented a builder and maintainer of institutional engagement) group was identified.</td>
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<tr>
<td></td>
<td>5. Elites contacted for participation</td>
<td>Elites within the services were contacted and asked to participate. The researcher requested any documents used to build and maintain the service for review. Documents from the elite and any available documentation (such external reports, strategic plans, proposed engagement programs) were reviewed by the researcher.</td>
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<tr>
<td>Taking</td>
<td>6. Document analysis against conceptual framework</td>
<td>The initial coding scheme was used to try and construct a preliminary description of institutional engagement within the population under investigation.</td>
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<tr>
<td>Action</td>
<td>7. Participants questioned</td>
<td>The elite were asked to provide insight through an open-ended survey. The survey was in-depth and semi-structured using the Kellogg Seven-part test of engagement.</td>
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<td>8. Data coding</td>
<td>Starting with the initial coding scheme, the researcher coded the data transcripts.</td>
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<td>9. Elite contacted for clarification</td>
<td>The researcher then re-contacted the elite (N=410) for additional data and clarification as needed through the use of a Human Action Model Analytical Tool developed based on key concepts gleaned from initial questioner. A description of institutional engagement was developed using the conceptual framework and the previous document analysis. The description took the form of a large format &quot;blueprint.&quot;</td>
</tr>
<tr>
<td>Evaluating</td>
<td>10. Description creation</td>
<td>The developed descriptions were verified using the Human Action Model proposed by Terry (1993).</td>
</tr>
<tr>
<td></td>
<td>11. Description verification</td>
<td>Final descriptions were created using the meta-narratives. Once descriptions were created, the researcher used the Human Action Model Elements to seek commonalities and created benchmarks to advance the engagement agenda.</td>
</tr>
<tr>
<td>Specifying</td>
<td>12. Description write-up</td>
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<td>Learning</td>
<td>13. Cross description analysis</td>
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</table>

### 3.3 Choice of Methodology

During the research program, direction and methods of research changed significantly. The program began as an investigation of aspects of institutional engagement, and changed to a field-based investigation into College of Agriculture stakeholder (faculty, staff and administration) perceptions and commitment to the engagement initiative as set forth by the Kellogg Commission on the Future of State and Land-Grant Universities. While at the beginning, the aim of research had been
a general syntax of institutional engagement; it eventually became the generation of a theory of engagement grounded in the evidence collected in the field and during evaluations.

There are several reasons for this turnaround and the eventual uptake of the grounded theory method.

1) Contacts with people and literature in the initial phase of my research slowly began to instill the notion that design and theory should relate to an empirical situation, not take its direction from available initiatives or academic interest.

2) At the same time, the contact with the Kellogg Commission *Returning to Our Roots* reports (NASULGC, 1997, 1998, 1999, 2000) made me aware that so far, the Seven-part Test of Institutional Engagement (NASULGC, 1999a) had been more defined by the requirements of institutional leaders, rather than by any appreciation of internal stakeholder situation or needs. Given the opportunity to spend time in the faculty, staff and administrative ranks, this researcher now wanted to find out more about the conditions and dynamics associated with advancing organizational change.

3) Studying the literature, particularly a range of PhD theses, I realized the dominance of a research design that constrains the scope of research to what can be rendered valid in terms of the canon of experimental science. Most researchers focus on a particular narrowly defined question, such as 'Do teaching methods have an impact on student learning?' The results may be valid for the chosen narrow validation context (mostly some controlled laboratory setting), but they have limited applicability for realistic settings. There are severe methodological problems with the assumption of 'all things being equal' and related attempts to neutralize unwanted context.

The definition of the research problem, methodological framework and hypotheses at the outset rules out recursive improvements or shifts of method beyond weeding out flaws through pilot runs. For design, and by implication design research, flexibility must be part of the method, if only for the fact that the introduction of the designed object or system, even as prototype, affects the domain's processes in many ways which are difficult or impossible to predict.

Methods introduce new domains, such as evaluations, that have their peculiar patterns and protocols that are unlike those of the referent domain. Reflection and adaptation of the methods used does not remove this problem, but makes it visible.

4) As I explored and learned more about institutional engagement, there developed growing piles of evidence such as documents, interviews and methodological reports. I
needed a method to systematize research and data analysis without typing results according to preconceived ideas. Grounded theory methods struck me as the most integrated and, at the same time, open approach to help make sense of the diverse evidence. It acted as a super-method or framework for a variety of subordinate research methods such as participant observation, receptive and semi-structured interviews, brainstorming, and evaluation methods such as think-aloud protocol, comparative trailing and question-asking.

3.4 Grounded Theory Method

The grounded theory method originates in the work of Glaser and Strauss (Glaser & Strauss, 1967; Glaser, 1978; Strauss, 1987). It is inductive in that it proceeds from empirical incidents to theoretical concepts, and at the same time deductive in that it applies these concepts in its coding and sampling of data. Although grounded theory is now nearly 30 years old, it is discussed and recommended in many recent books on social research and methodology (Hammersley & Atkinson, 1995; Strauss & Corbin, 1990).

While grounded theory may not be at the height of its popularity, there are recent examples of its application. At the time of its introduction, the center of grounded theory research was in the medical field. Today this center seems to be somewhere between organizational research and information systems design. Here are some examples:

- de Burca and McLoughlin (1996) advocate the use of grounded theory method in business network research.
- Orlikowski (1993) used grounded theory method in her investigation of incremental and radical changes through the introduction of CASE tools.
- Rojo (1996) combined grounded theory with a quantitative on-line survey method to research the participation in scholarly electronic forums.

Grounded theory method is a recursive process that links theory generation to data collection. It is this aspect that puts it close to interpretive design and formative evaluation methods (Dey, 1999; Nielsen, 1993). The basic overlapping operations of the grounded theory method are data collection, coding, memoing, and sorting.
3.4.1 Data Collection

Data collection employs a variety of qualitative methods such as observation, receptive interviews and document analysis to collect the grounding evidence. Methods such as participant observation (Waddington, 1994), brainstorming (Jones, 1992), think-aloud method (Nielsen & Mack, 1994; or question-asking (Johnson & Briggs, 1994) simply appear as subordinate methods contributing evidence for grounded theory development. In this study, evidence consists of metadesccriptions, field notes (from participant observation, brainstorming, and think-aloud method), interview transcripts, and documents collected in the field. Secondary evidence are documents generated during theory development such as line-by-line micro-analyses of reports of field notes, and memos on codes or categories. A further source for comparison was the reviewed literature.

Grounded theory avoids survey methods and structured interviews since these filter data according to preconceived categories. The basic attitude is to approach the field open-mindedly and with as few preconceived concepts and hypotheses as possible. “Existing preconceptions about the object of study should be treated as preliminary, to be overcome as research produces new incongruent information” (Glaser & Strauss, 1967, p. 23). In this study, the initial research object “building and maintaining institutional engagement” was gradually replaced by “internal stakeholders perceptions towards building and maintaining institutional engagement.”

Theoretical sampling means that the grounded theory process recursively links data collection to data analysis and coding that begins as soon as the first data becomes available. Analysis suggests other samples of data as potentially relevant, for example, other informants or settings, other collection methods, other times of collection, etc. In this study, the initial loose research contact to the faculty within the College of Agriculture turned out to be inadequate for the study of building and maintaining institutional engagement, so the researcher gained access to additional internal stakeholders (staff and administration).

3.4.2 Coding

The grounded theory method suggests the development of theoretical concepts from data collection through coding. The coding of data such as field notes and interview transcripts poses questions such as “What does this incident indicate?” (Glaser, 1978, p. 57). Coding proceeds line-by-line to avoid missing important aspects that might escape in the overview approach of reading. “Overall, the data somewhat quickly yield an impressionistic cluster of categories” (Glaser, 1978, p58).
While substantive codes relate to objects and events in the data, conceptual codes integrate these on a higher level of abstraction and "get the analyst off the empirical level" (Glaser, 1978, p55). Open coding opens up the data by generating as many preliminary categories, properties and dimensions as possible. Constant comparison, moving back and forth between different codes and between indicators in the data, informs the sub-assumptions of individual substantive codes under more general conceptual categories. The individual substantive codes now begin to indicate dimensions of the conceptual category.

In this study, initial codes from the open coding process such as "awareness of task artificiality" (respondents responding according to what they assumed to be evaluators' expectations), "local matching" (respondents copying text from document systems onto their question catalogue), "anchoring" (respondents quoting the Kellogg Commission report instead of giving a substantive answer) or "document authority" (respondents' inclination to refer to the Kellogg University or College documents as authority, as in "there must be good reasons for this"), all contributed to the category validation context. In evaluations with lay novices (faculty and staff), the validation context is local and ungrounded, while in the administrative domain, it is grounded in anticipated processes in the referent domain.

3.4.3 Memoing

Memoing is interwoven with coding. "Memos are the theorizing write-up of ideas about codes and their relationships as they strike the analyst while coding" (Glaser, 1978 p83). The advice is to stop and memo as coding sparks off ideas.

Memoing reflects the process of constant comparison across indicators and codes. It saturates dimensions of the main categories that have emerged through coding and constantly generates open questions for further coding and data collection.

In this study, one problem was memo management. It was difficult to keep track of the developing memos, particularly since some were word-processed while others were hand-written. Since memory of older memos faded and new ideas wanted to be recorded before they got lost, there was a lot of overlap. Similar connections were beginning to appear again and again in different memos saved under different descriptors. The process of writing drew in, or shifted to, other categories so the memo descriptor did not fit anymore, which led to splitting memos and to slightly different versions of the same memo under different descriptors.
Memoing develops the core category around which the other categories integrate. The core category has no transcendent prerogative; it simply integrates the theory according to the emergent perspective of investigation and thereby defines its cut-off points. However, the core category has earned its relevance through the grounding of the theory in the domain. "It must be central, i.e., related to as many other categories and their properties as possible...and account for a large portion of the variation in a pattern of behavior" (Glaser, 1978, p95). It must also occur frequently, be completely variable, and "have a clear and grabbing implication for formative theory" (Glaser, 1978, p95). Which exact descriptor for the core category is chosen may involve some arbitrariness on the part of the researcher. In this study, the core was first labeled "activity", pitting "stakeholder activity" against "document activity." It was later re-labeled "human action" (as defined by Terry, 1993), pitting "emergent human action" against "organizational initiatives." While being broadly equivalent, the later descriptors allowed a wider scope. For example, "organizational initiatives" were not confined to human actions (meaning, mission, power, structures, resources, and existence), but included societal expectations, institutional direction and financial driving forces.

3.4.4 Sorting

The sorting of memos goes some way towards resolving the memo management problem. Grounded theory is not written according to a pre-conceived outline; instead, the outline emerges during the sorting process.

Sorting presents the theory by differentiating and segmenting it. It thereby forces comparison and clarification of codes both substantially and on the level of terminology as similar memos are brought close together in one section. Sorting sparks new memos on interrelationships between codes that are sorted into the emerging outline.

3.4.5 Writing

Writing turns the "sort" into a text. Sorting creates the outline of the theory that largely determines the order of chapters and sections within chapters. This order introduces concepts in a cumulative fashion and thereby minimizes redundancy. Since writing is the stage within the grounded theory process that is most dependent on the style and personal predilections of the author, the author does not intend to cover it in much detail (refer to Glaser, 1978 for more details).
3.4.6 Synthesis

The protocol for a PhD dissertation requires a "new contribution to knowledge." The phrase implies knowledge as a growing store of facts to be augmented, refined or falsified, but forbids questions as to the usefulness of the store itself. The novelty must be measurable in comparison to existing objects of scientific endeavor — an activity that implies a fundamental complicity with the structure and implicit ideology of these objects. Results will only be recognized as new knowledge if a double projection can conceive of them as old knowledge. The anchoring of the work in the scientific tradition is not so much an expression of learning and gratitude as much as the justification of past endeavors that finds its material expression in citation records.

By contrast, the grounded theory process anchors the emerging theory through the comparative analysis of all the data collected in a substantive domain. This works against the bias of any specialized 'academic' problem since the core process around which the theory aggregates only emerges through the analysis of the entire setting, albeit from a particular interested perspective. The substantive theory, then, contributes to knowledge through a synthesis based on grounded evidence. This synthesis allows the assessment, integration and modification of diverse analytical concepts generated by separate academic disciplines. Where the theory makes use of existing concepts, it often extends their scope and discovers important new relationships.

3.4.7 Scope for Change

The grounded theory method explicitly acknowledges the hypothetical nature of the generated theory and its openness for change. The proponents of business process re-engineering, a capitalist revolution confined to the level of organization, emphasizes the uselessness of a careful analysis of existing production processes since radical reengineering will wipe the slate clean for the design of more efficient processes (Hammer & Stanton, 1995). This indicates the temporal tolerances of validity and reliability. Research might simply take too long to be of any relevance for a fast-changing reality. Changes from public to private funding are likely to align academic research to the time scale dictated by the accelerating economic system. Besides, this acceleration seems to favor methodologies such as grounded theory that recursively generates theory as soon as the first data is collected, and therefore make an anachronism of those that require lengthy data collection before (statistical) analysis and evaluation can begin. Glaser (1978) maintains, "A theory must be readily modifiable, based on ever-emerging notions from more data" (p4). The hypotheses of a theory are
necessarily incomplete when validation is linked to the recursive changes of research and researched processes.

In this study, changes came about as the study of field notes led to questions that revealed incorrect assumptions and prompted corrections and explanations by faculty and administration, or when respondents countered the questions and indicated errors or misrepresentations. The web-based instruments also repeatedly revealed problematic features of design that were then changed and re-evaluated.

3.5 Fieldwork

The fieldwork contributed the bulk of evidence on which the author's theory of institutional engagement rests. It began with an attachment to the College of Agriculture Professional Development Committee and the Department of Agricultural Education and Studies. The researcher's major professor, serving as the chair to the professional development committee, highly encouraged an interaction with as many faculty, staff and administration in other departments within the College.

At the advice and support of the author's major professor, the researcher chose the Annual Professional Development Day as the starting point for the practical insight/fieldwork since the professional development day theme was Institutional Engagement. Also it seemed appropriate for acceptance into the College faculty, staff and administration systems. The choice was informally endorsed by the Associate Dean of Academic Programs, and by the researcher's major professor and adviser to the research project.

Every week, a informational visit was paid to the faculty, staff and administrators within the College of Agriculture. This was a phase of apprenticeship (Brown & Duguid, 1992). Apprenticeship learning has been described by Brown and Duguid (1992) as 'legitimate peripheral participation' (p167). According to this view "learning is a process of constructing an identity through joining (or developing) a "community-of-practice." Learning involves becoming an "insider" (Brown & Duguid, 1992, p168). The researcher could follow, participate in and benefit from discussions about institutional engagement posed by faculty, staff and administrators. The researcher's presence led to "receptive interviews" (Kleining, 1994, p123). However, involvement fell short of "going native." The researcher's visits were infrequent. The researcher was not seen as a real contributor to the College of Agriculture, but merely tolerated as a graduate student. Also, there was a cultural and skill differential.
The general pattern of fieldwork consisted of periods of observation interweaved with interviews or conversations in which faculty, staff and administration often qualified the researcher's observations. Much of the discussion was initially on the level of the institutional engagement as described by the Kellogg Commission, which enabled the researcher to expand his technical knowledge and substantive competence. The researcher then steered the discussion to the secondary level of the role that internal stakeholders played in building and maintaining institutional engagement within the College of Agriculture.

3.6 Design Practice and Theory

An important feature of the research design was the close link between theory development and design practice. The design practice, which includes the evaluation of artifacts with stakeholders, becomes a medium of theory development as much as the grounded theory process and, on another level, so too the logic and rhetoric of discourse.

However, it would be naive to assume a direct transfer between theory and practice. Moser (1995) put it best as “the ambitious interventionist program of action research has given way to a more cautious view that assumes that the science system and the practice system have different referents and modes of operation” (p 70). In this view, the pivot of scientific discourse is truth, while that of the discourse of practice is utility. The constructivist view of science as differential processing of truths, however, is itself ideological. The operational independence of the ‘science system’ is tied to a historical situation that assumes the segregation of the discourse of the observer from that of the observed. This situation has begun to change dramatically in recent years. Traditionally, publications are consumed without access to the context of their development. On such a basis, the ‘truth’ of science must be constructed immanently through the form of its own discursive modus: that it relates observations while accounting for its methods of observation, which means that it constitutes the very context in which it processes the truth value of its hypotheses. This view of truth disregards the fact that any scientific reading routinely goes beyond the narrow boundaries of the constructed context. The reader will not only draw comparisons with other publications in the same field, but also compare the publication's context and scope with that of other available resources about its reference domain, such as personal experience and observation, hearsay, and various more or less reliable conjectures and inferences. ‘Truth’ is tied to this messy context. It is not a binary value of controlled and testable propositions, but rather, a complex sensation of evidence that is socially mediated.
The material conditions that seem to motivate the view of a self-referential, truth-processing science system are not a timeless fact, but historically determined. The Internet as a data collection method has the potential to change the conditions of gathering scientific research, e.g., by allowing respondents to document their referent domain and their social and discursive context. It is already commonplace that on-line publications include a pointer to the author. Social studies may include not only references to other related topics, but on-line links into the researched domain. *The Economist* declared “new forms of peer review may append many readers' comments to the on-line publication” (The Economist, 1996, p98). The potential of communicative validation beyond the observer perspective enshrined in the research fundamentally alters the concept of truth.

This change is significant because a theory linked with practice is no longer exclusively bound by the characteristics of its medium and language. The Enlightenment had prepared the modeling of cognition according to ‘logos’, i.e., as a model structured (and constrained) by the discrete units of language. This conceptual dignity allowed language to go beyond the mere reflection of empirical objects. Discrete objects that are the in- and output of closed processes permeate the literature on cognition, and can still be found in textbooks today (for example, Smyth, *et al.*, 1994; or Driscoll, 1994). Since the scientific argument usually processes its commodity—concepts—for extraneous persuasive reasons, i.e., in order to extract, like a profit, a competitive argument for ends that are not immediately coupled with its referents, it draws, so to speak, on the exchange-value rather than the use-value of concepts (Marx, 1970, p 27). The latter can only be consumed when terms become a reflective moment of the very practice they describe.

### 3.7 Selection of Population Elites

An elite is a person recognized by the members of the population as primarily responsible for the structure and maintenance of an organization. The elite is a manager (faculty, staff and administration) of the service that translates the vision or mission of an organization into day-to-day activities. The selection of elites was done through document analysis of the existing service (if available) and/or a series of short initial interviews with members of the organization under investigation. These initial interviews were used to establish responsibilities of individuals and were conducted with a series of probing questions to determine the person(s) meeting the pre-determined requirements, and established a list of several individuals within the institution selected to collect the primary data. Table 3-3 below outlines the criteria of elites and a preliminary set of probing questions used in the initial interviews.
Table 3-3: Elite Criteria and Selection Interview

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Probing Question</th>
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<tbody>
<tr>
<td>Manager</td>
<td>Who manages the engagement process for your College/Department?</td>
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<td></td>
<td>Who manages internal stakeholders (faculty &amp; staff)?</td>
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<td></td>
<td>Who's in charge of the engagement process?</td>
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<tr>
<td>Internal Stakeholder</td>
<td>Who serves the institution in dual roles as a manager and faculty member?</td>
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<tr>
<td>Knowledgeable about implementation issues</td>
<td>Who sets up engagement activities?</td>
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<tr>
<td>Knowledgeable about mission and vision of the organization</td>
<td>Who makes policy decisions in your organization?</td>
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<tr>
<td>Able to represent the organization</td>
<td>Who are the primary contacts for understanding the engagement process within the College/Departments?</td>
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<td></td>
<td>Who should I talk to about how the institutions set up and maintain institutional engagement?</td>
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</tbody>
</table>

3.7.1 Observational Guides for Data Collection

Bogdan and Biklen (1992) stated on the topic of observational guides:

In keeping with the qualitative tradition of attempting to capture subjects' own words and letting the analysis emerge, interview schedules and observational guides generally allow for open-ended responses and are flexible enough for the observer to note and collect data on unexpected dimensions of the topic. (p. 77)

The observational guides used in data collection are presented in Table 3-4. It was drawn from the researcher's experience with higher education and understanding of the engagement initiative set forth by the Kellogg Commission on the Future of State and Land-Grant Universities. It is strongly related to the conceptual framework. These open-ended questions are considered the "base" for some data collection, not the entire data collection.

These basic question areas created a picture of an agent's (organization's) performance system (Holland, 1995). The elite population then confirmed the description as they matched their understanding. This review process was done with a combination of Internet and e-mail data collection tools. Descriptions were placed on a web site, and the elite contacted via e-mail. The majority of feedback and corrections to the descriptions occurred via an Internet follow-up questioner based on a Human Action Model Analytical Tool.
Interview data and member checks were used in conjunction with secondary information sources to ensure trustworthy data. By triangulating (Patton, 1990) data from interviews and the secondary information sources the researcher could "reduce systematic bias in the data via a process by which the research can guard against the accusation that a study's findings are simply an artifact of a single method, a single source, or a single investigator's biases" (Patton, 1990, p. 470). Further methods used to ensure data quality are discussed below.

Once the performance system of the College of Agriculture was created, it was added to a body of engagement and human action (Terry, 1993) descriptions. The researcher then looked across the body of engagement descriptions (segmented by detectors, rules and effectors) to seek patterns and commonalities. The researcher looked for commonly used detector types, such as meaning, mission, power, structure, resources and existence (Terry, 1993) or anecdotal evidence from respondent e-mail input. This search for meta-descriptions occurred using an inductive approach. In this approach the researcher continually "looked through" the data (in this case meta-narratives provided by respondents and the empirical evidence that those descriptions are based upon) looking for repeated terms, phrases and concepts (Bogdan & Biklen, 1992). The researcher used the Terry (1993) Human Action Model as a set of working definitions and detectors. These were checked against the empirical data for exceptions and reinforcement.

3.8 Venues for Data Collection

Three media were used to collect data: Internet Open-ended survey (see Appendix A), Human Action Model Analytical Tool (see Appendix B), and personal interviews. Because the ultimate goal of the data gathering was to create descriptions based on the conceptual frame (of an agent's performance system), and the elite population being interviewed verified this description, the means to that description were deemed less important by the researcher than in a controlled environment. Decisions on the format, design, question structure and response categories for the Internet Open-ended survey and Analytical Tool were made using Dillman's Total Design Method (Dillman, 1978).
<table>
<thead>
<tr>
<th>Conceptual Framework Section</th>
<th>Sub-Section</th>
<th>Sample Question</th>
<th>Probes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detector</td>
<td>Agent Type (Users)</td>
<td>How do you keep track of your users?</td>
<td>How do you determine the number of users?</td>
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<td>What type of information do you attempt to gather about users of your services?</td>
<td>How do you determine the demographics of your users?</td>
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<td>What are the specific mechanisms you have in place to gather this information?</td>
<td>Do you keep archives of interactions with users?</td>
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<td></td>
<td>What do you keep track of with regards to other institutional engagement activities?</td>
<td>Do you conduct focus groups?</td>
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<tr>
<td>Detector</td>
<td>Agent Type (Information Services)</td>
<td>How do you gather ideas from other institutions or colleges to incorporate them in your own services?</td>
<td>Do you have specific responsibilities or staff with the responsibility of looking at other institutions or colleges engaged with users?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What are the specific mechanisms you have in place to gather this information?</td>
<td>Do you query users about their current use of programs?</td>
</tr>
<tr>
<td>Detector</td>
<td>Agent Type (Program Builders)</td>
<td>How do you determine what programs and activities to support?</td>
<td>Have you developed any relations with stakeholders specifically to &quot;keep ahead&quot; of the changing needs of society?</td>
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<td></td>
<td></td>
<td>What are the specific mechanisms you have in place to gather this information?</td>
<td>Do new initiatives such as the Engagement initiative set forth by the Kellogg Commission on the Future of State and Land-Grant Universities affect how you build and maintain your services?</td>
</tr>
<tr>
<td>Detectors</td>
<td>Agent Type (Infrastructure Providers)</td>
<td>How is your department connected to stakeholders?</td>
<td>Do you spend much of your time concerned with engagement issues?</td>
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<td>Who is primarily in charge of this relationship?</td>
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<td>How do you monitor changes in your connection?</td>
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<td>What are the specific mechanisms you have in place to gather this information?</td>
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Table 3-4: continued

<table>
<thead>
<tr>
<th>Conceptual Framework Section</th>
<th>Sub-Section</th>
<th>Sample Question</th>
<th>Probes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detectors</td>
<td>Internal Influences</td>
<td>How do you capture ideas generated from those working in your institution?</td>
<td>Do you look to someone on your staff (or yourself) to be an innovator? Who within your organization sets the vision for the organization?</td>
</tr>
<tr>
<td>Detectors</td>
<td>External Influences</td>
<td>Do you find internal stakeholder (faculty, staff and administration) ideas have a role in determining how the institution is run?</td>
<td>Do you look to someone on your staff (or yourself) to be an innovator? Who within your organization sets the vision for the organization?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What are the specific mechanisms you have in place to gather this information?</td>
<td>Do you look to someone on your staff (or yourself) to be an innovator? Who within your organization sets the vision for the organization?</td>
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<td>How do forces outside of the University effect your service?</td>
<td>Do funders influence the day to day agenda for your service?</td>
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<tr>
<td></td>
<td></td>
<td>What non-University sources of information inform how to build and maintain your service?</td>
<td>Are your services affected by larger society or systems concerns?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>What are the specific mechanisms you have in place to gather this information?</td>
<td>How do you determine the needs of the College in terms of your Department?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>From the methods of acquiring information from stakeholders, internal sources and external sources just discussed, how do you prioritize this information?</td>
<td>Do you value one type of information over another (such as users, faculty or staff)?</td>
</tr>
<tr>
<td>Rules</td>
<td>Detector Information Processing</td>
<td>How do you answer the questions of the College of Agriculture community?</td>
<td>Do you have daily or weekly meetings to discuss what's happening outside of the institution?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>How do you gather your questions, distribute the questions, then ensure the user gets and answer?</td>
<td>How do you archive these questions?</td>
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<td></td>
<td></td>
<td>What tools do you use to build and maintain your service?</td>
<td>How do you either modify your existing service or create new services?</td>
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<td>How many people are involved within the organization in the engagement initiative?</td>
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<td>Do you have policies in place that guide the engagement initiative?</td>
<td>What are the resource requirements to conduct the engagement initiative?</td>
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<td></td>
<td>Resource Types</td>
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<table>
<thead>
<tr>
<th>Conceptual Framework Section</th>
<th>Sub-Section</th>
<th>Sample Question</th>
<th>Probes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rules</td>
<td>Resource Types (people)</td>
<td>What are the skills of the people who build and maintain institutional engagement within your Department or College?</td>
<td>Are there different roles in your process? Do different people do different things? Do you make a division between those who process the questions (intermediaries) and those who answer the questions (the collection)?</td>
</tr>
<tr>
<td>Rules</td>
<td>Effector Tie-Ins</td>
<td>What policies or decision making structures do you have in place for modifying your existing services or creating new services?</td>
<td>Does the new service have to match a given stakeholders expectation (such as users or funders)?</td>
</tr>
<tr>
<td>Effectors</td>
<td>Technical</td>
<td>What types of tools are used to deliver information to the College of Agriculture community?</td>
<td>Do you have an information system set up to reach both internal and external stakeholders?</td>
</tr>
<tr>
<td>Effectors</td>
<td>Other</td>
<td>Do you conduct workshops or conferences on institutional engagement?</td>
<td>Are both internal and external stakeholders invited?</td>
</tr>
</tbody>
</table>

#### 3.9 Use of Secondary Information Sources

Secondary sources of information supplemented the primary meta-descriptive data. The open-ended survey, email and elite interviews produced the largest, richest and most important data set. Interview data were in the form of HTML transcripts and field notes. Secondary sources were in multiple forms (print, text, visuals, etc.).

Other types of information were used to either enrich the data set, or to account for the researcher’s experience. They were: 1) personal conversations, 2) documents, 3) site observation, 4) internet, and 5) researcher experience. These information types are discussed below.

#### 3.9.1 Personal Conversations

In our society, we tend to argue, explain, interrogate, accuse, defend, complain or praise far more than we ever converse. We argue to persuade, explain to inform, and interrogate to get the facts. We accuse to express anger, defend to protect, complain to indicate something is wrong, and
praise to indicate something is right. Almost always the purpose of the exchange is something practical. We want something to change, either an opinion or a behavior, or we want to reinforce. We want to know so that we can do, not necessarily so that we can just know. Yet, knowing is what research is all about, and knowing does not imply doing anything.

The researcher had access to internal stakeholders from the wider community. These internal stakeholders offered a variety of experiences, from personal conversations about the value of institutional engagement, to allowing the researcher to shadow them at their job. The study used these personal conversations to clarify concepts from interviews, literature and meta-descriptions and allowed a greater understanding of the organization and engagement process itself.

3.9.2 Documents

The researcher attempted to obtain any relevant organizational documents such as planning guides, internal policy statements or external documentation. The study used this information to clarify concepts from interviews and meta-descriptions, and allowed a greater understanding of the organization and engagement process itself. These internal documents are a sub-class of documents used in document analysis. These documents are meant for members of the organization and may not be readily available to the public.

3.9.3 Site Observation

The engagement sites created by the Colleges' internal stakeholders are "evidence" (Buckland, 1991) provided by organizations under investigation. These included primarily departmental accessible documents as a means of disseminating organizational information to end-users. Sites were a sub-class of documents in document analysis. These documents were meant for a wide and open audience.

3.9.4 Internet

The researcher constantly scanned the Internet for new developments that might be important to builders and maintainers of institutional engagement. As a teaching and research assistant in the Department of Agricultural Education, this type of scanning is part of the researcher's daily activities. This "peripheral scanning" (done with such devices as mailing lists, newsgroups, and the World Wide
Web) was useful in keeping the researcher informed of research developments that elite interviewees might discuss. The more knowledgeable the researcher was about institutional engagement trends and developments, the better equipped the researcher was to communicate with elites and understand elite comments and data.

3.9.5 Researcher Experience

The last factor in the analysis process was the researcher's experience, particularly in working within the higher education system, organizational leadership and project supervision. In qualitative work the researcher is the primary data-gathering instrument (Creswell, 1994). All data are "filtered" through the experiences of the person gathering the data. Human filtering is an assumption of the naturalist; that is, human beings provide the greatest ability to understand social phenomena:

The naturalist prefers humans as instruments, for reasons such as greater insightfulness, flexibility, and responsiveness, the fact that they are able to take a holistic view, are able to utilize their tacit knowledge, and are able simultaneously to acquire and process information. (Guba & Lincoln, 1988 p.83)

Indeed, it is the ability of the human instrument to rephrase and reinterpret information in situations that makes grounded theory data so rich and potentially powerful; this is unlike a traditional survey that does not allow for probing or restating if the respondent does not understand a question. The ability of the human instrument to be flexible is vital in dealing with the virtually unexplored institutional engagement initiative. There must always be some negotiation of meaning (Blumer, 1969).

A central issue in interview research is the "expert" interviewer or researcher. Should the investigator be a novice and unable to prevent bias or an expert competent enough to understand the content area? In this study, the expertise of the researcher aided in the investigation. Expertise and experience of the researcher acted as a filter. An example will illustrate this point. If a person walks into a foreign country where he or she does not speak the language and listens to a conversation, that person at best might be able to pick up social cues and some vocabulary. The person might, for example, note that voices get raised in what seems like anger or the repetition of certain words. He or she might even be able to associate certain words with certain responses (such and such a word makes people uncomfortable). One is restricted to obvious social interactions and patterns without pre-knowledge of the vocabulary and, by extension, the social norms.
On the other hand, if the person knows the language or has experience in the foreign country, that person can concentrate on the content of the conversations although he or she might miss certain social aspects of the conversation. The central deciding factor between the expert and novice views is the information sought. If one seeks the social interactions, a novice view is logical. On the other hand, if the content is the focus of the study, expertise is appropriate.

In the case of this study, the researcher sought content information. This research de-emphasized social interactions and "surface" patterns in favor of a deeper understanding of the population and elites' worldviews. Compare the following two examples:

1. The panoply of problems and opportunities incorporated in the phrase education and the economy requires attention. The traditional mainstays of extension on our campuses, agriculture and food, need to be renewed. In the most important way imaginable, our universities need to return to their roots in rural America with new energy for today's new problems. Despite the nation's massive investment in health care, an enormous agenda remains before us. It need hardly be said that we need a new emphasis on urban revitalization and community renewal comparable in its own way to our rural development efforts in the last century. We need to pay new attention to the challenges facing children, youth, and families in the United States. Finally, we need to redouble our efforts to improve and conserve our environment and natural resources.

2. Higher education faces several problems and opportunities. Its programs and services need to go beyond traditional issues and look at what society needs.

These two examples say roughly the same thing (namely that education has some problems and opportunities to aid in advancing society), but the first, if you know the vocabulary, is much richer. Also, if you understand the first, you can understand the second. The first example indicates a different level of expertise and outlook on state and land-grant universities than the second example.

3.10 Data Description

The data gathered through the primary and secondary data gathering activities were rich natural language documents. These documents were primarily text (such as the interview transcripts) and were stored online. Two sets of data were stored online: the raw data in a secure area, and a set of data available via diskette.

The researcher then coded the data set, using the Human Action Model Elements. The coding process was to generate a series of descriptions of organizational elements that are used to
build and maintain institutional engagement. A series of coded transcripts (Bogdan & Biklen, 1992, Chapter 5) formed the basis for the descriptive process. Table 3-5 shows the researcher's final coding scheme. This scheme was derived from the conceptual framework presented in Chapter 2 and the Human Action Model developed by Terry (1993).

A provisional coding process was used initially on documents obtained then the elite interview transcripts were reviewed. The researcher then constructed a consensus based on patterns found across the stakeholder meta-descriptions as found in the coded data. The elite's data empirically grounded any larger descriptions or patterns identified by the researcher. This grounding was accomplished by matching every part of the meta-description to specific evidence in documentation or transcript data.

3.11 Data Quality

It was essential to ensure the quality of the study's data as well as the results based on the data acquired by the researcher. Many terms have been put forward to discuss this central point in research. Brinberg and McGrath (1985) referred to the process of ensuring quality of data as validity and stated "validity has to do with truth, strength, and value" (p.13). They proposed an entire system of ensuring validity called the Validity Network Schema (Brinberg & McGrath, 1985, p.14). Yet they cautioned:

Validity is not a commodity that can be purchased with techniques. Validity, as we will treat it, is a concept designating an ideal state - to be pursued, but not to be attained. (p.13)

In the interpretive paradigm, the concept of ensuring quality data is most often referred to as "trustworthiness" (Marchall & Rossman, 1995, p.143). Marshall and Rossman stated the following in regards to data quality:

All research must respond to canons that stand as criteria against which the trustworthiness of the project can be evaluated. These canons can be phrased as questions to which all research must respond (Lincoln & Guba, 1985). First, how credible are the particular findings of the study? By what criteria can we judge them? Second, how transferable and applicable are those findings to another setting or group of people? Third, how can we be reasonably sure that the findings would be replicated if the study were conducted with the same participants in the same context? And, fourth, how can we be sure that the findings are reflective of the subjects and the inquiry itself rather than a creation of the researcher's biases or prejudices?" (p.143)
### Table 3-5: Final Coding Scheme

<table>
<thead>
<tr>
<th>Conceptual Framework Section</th>
<th>Human Action Model Element</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detector</td>
<td>Existence</td>
<td>A <strong>limiting and possibility</strong> term outlining that from which human action moves. In an organizational setting, this may be referred to as the <strong>setting</strong>.</td>
</tr>
<tr>
<td>Detector</td>
<td>Mission</td>
<td>A <strong>direction</strong> term identifying that toward which human action moves. In an organizational setting, this may be referred to as knowing direction.</td>
</tr>
<tr>
<td>Detector</td>
<td>Resources</td>
<td>A <strong>material</strong> term connoting that with which human action moves. In an organizational setting, this may be referred to as using resources.</td>
</tr>
<tr>
<td>Rules</td>
<td>Structure</td>
<td>A <strong>form and process</strong> term defining that through which human action moves. In an organizational setting this may be referred to as organizing form and process.</td>
</tr>
<tr>
<td>Rules</td>
<td>Power</td>
<td>An <strong>energy</strong> term signifying that by which human action moves. In an organizational setting, this may be referred to as using energy and power.</td>
</tr>
<tr>
<td>Effectors</td>
<td>Meaning</td>
<td>A <strong>significance and sense</strong> giving term implying that for which human action moves. In an organizational setting, this may be referred to as valuing purpose.</td>
</tr>
</tbody>
</table>

There are four tests of trustworthiness, and therefore, data quality put forth in this quote: 1) criteria for judging credibility, 2) transferability of findings, 3) the ability to replicate findings, and 4) accountability for researcher bias. The researcher developed several techniques to attempt to meet these tests (keeping in mind Brinberg and McGrath's point that these tests can never be fully met). These techniques include: 1) use of criteria, 2) use of conceptual framework, 3) use of an audit trail, and 4) the use of member checks.

#### 3.12 Use of Criteria

Much of the method used in this study involved some form of selection. Whether in selecting an expert panel, participating respondents or elites or even coding categories, the researcher was constantly called upon to select. By making explicit criteria for selection the researcher attempted to both make explicit assumptions (thus noting potential researcher bias) and ensure the ability of others to replicate decisions. Throughout this chapter, where possible, selection criteria have been made
explicit. For example, the discussion of elites includes selection criteria used to identify individual respondents.

3.13 Use of Conceptual Framework

Another way to ensure trustworthiness is to use theory and literature (Brinberg & McGrath, 1985). In this study, the conceptual framework represents theory, literature and previous research. By basing coding categories and the initial interview schedule on the conceptual framework, the research reduced the chance of missing data. The conceptual framework outlined the initial areas of investigation and therefore outlined the data expected. The use of open-ended interviews, on the other hand, allowed for new data to emerge that was not anticipated by the framework.

The conceptual framework will also be useful in transferring the method of inquiry from the College of Agriculture to other Colleges. The conceptual framework is "context free" in its description of building and maintaining institutional engagement. The conceptual framework may be valuable in the study of any College or University seeking to build and maintain engaged institutions. It also creates a structured way to look across organizations regardless of their contexts (by comparing detectors, rules and effectors for example).

3.14 Use of an Audit Trail

Grounded Theory is about making decisions in the midst of the data collection and coding. The creation of working hypothesis (Bogdan & Biklen, 1992), additional coding categories and decision points in the creation of both institutional engagement descriptions and the meta-description involved decisions by the researcher. These decisions were both unavoidable, given the strength of grounded theory (as discussed above). However, in order to ensure trustworthiness, particularly in questions of replications and attention to researcher bias, these decisions must be made explicit. By noting these decisions, reviewers of the study can judge the credibility of the researcher and the findings of the research.

The mechanism used to document decisions was an audit trail. This audit trail was created through several techniques. First, transcripts and notes of all interchanges with others (elites, internal stakeholders, and the expert panel) were kept. Secondly, the researcher created memos at decision points in coding data and in adjusting both the initial interview schedule and initial coding scheme.
These memos document the thinking process of the researcher and allow reviewers to analyze decision points for potential biases.

### 3.15 The Use of Member Checks

At several points in the process, either the elite interviewed or the expert panel confirmed data and analysis. These confirmations are known as "member checks." In these checks the researcher "take[s] the categories or themes back to the informants [the elites or expert panel] and ask[s] whether the conclusions are accurate" (Creswell, 1994, p.158). This is based on the precept of grounded theory and qualitative methods that the distance between the researcher and the informants is minimized (Guba & Lincoln, 1988).

### 3.16 Summary of Data Quality

Table 3-6 represents the overall method of this study with specific data quality mechanisms used at each step.

<table>
<thead>
<tr>
<th>Step in Method</th>
<th>Data Quality Mechanisms</th>
</tr>
</thead>
</table>
| **Analysis of the Institutional Engagement Initiative and a match to the College of Agriculture** | Use of selection criteria:  
- Commitment to the Engagement Initiative presently in operation  
- Explicitly stating institutional commitment to the Engagement Initiative  
Use of panel selection criteria:  
- Member of College of Agriculture Faculty, Staff or Administration  
- Understanding of the Engagement Initiative  
- Participant should be easily reachable and accessible  |
| **Expert panel Criteria development** | Use of expert panel and their site selection criteria  
Criteria for elite  
- Knowledgeable about implementation issues  
- Knowledgeable about mission and vision of the organization  
- Able to represent the organization  |
| **Expert panel site selection** | Transcript of contact through the Internet and e-mail  
Site contact for elite  
- Knowledgeable about implementation issues  
- Knowledgeable about mission and vision of the organization  
- Able to represent the organization  |
| **Elites contacted for participation** |  |
Table 3-6: continued

<table>
<thead>
<tr>
<th>Step in Method</th>
<th>Data Quality Mechanisms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Document analysis against conceptual framework</strong></td>
<td>Criteria for detector identification</td>
</tr>
<tr>
<td></td>
<td>• A detector is a thing. It is a person (or group of people) that gathers, develops and disseminates information. Ultimately detectors are mechanisms that can be &quot;pointed&quot; to.</td>
</tr>
<tr>
<td></td>
<td>Criteria for rules identification</td>
</tr>
<tr>
<td></td>
<td>• A rule is a process. Rules are purely abstract and need resources to transform information. They are structures and either implicit in action or made explicit through documentation.</td>
</tr>
<tr>
<td></td>
<td>Criteria for resource identification</td>
</tr>
<tr>
<td></td>
<td>• A resource is a thing. It is a person (or group of people), technology, money or documented policy that as dictated by rules transform information.</td>
</tr>
<tr>
<td></td>
<td>Criteria for effector identification</td>
</tr>
<tr>
<td></td>
<td>• An effector is a service or set of information with which an agent other than the organization under study can interact.</td>
</tr>
<tr>
<td><strong>Elite interview</strong></td>
<td>Interview schedule derived from conceptual framework</td>
</tr>
<tr>
<td></td>
<td>Interview transcript</td>
</tr>
<tr>
<td><strong>Interview coding</strong></td>
<td>Use of initial coding scheme derived from conceptual framework.</td>
</tr>
<tr>
<td></td>
<td>Criteria for detector, rule, resource and effector identification</td>
</tr>
<tr>
<td></td>
<td>(see document analysis against conceptual framework step)</td>
</tr>
<tr>
<td></td>
<td>Memos</td>
</tr>
<tr>
<td><strong>Elite contacted for clarification (if necessary)</strong></td>
<td>Interchange transcript</td>
</tr>
<tr>
<td><strong>Description creation</strong></td>
<td>Coding scheme</td>
</tr>
<tr>
<td></td>
<td>Use of document analysis as a check</td>
</tr>
<tr>
<td></td>
<td>Member check</td>
</tr>
<tr>
<td><strong>Description verification</strong></td>
<td>Transcript of exchanges</td>
</tr>
<tr>
<td></td>
<td>Memos</td>
</tr>
<tr>
<td><strong>Cross description analysis</strong></td>
<td>Conceptual framework guidance</td>
</tr>
<tr>
<td></td>
<td>Coding scheme (Human Action Model)</td>
</tr>
<tr>
<td></td>
<td>Clarifications from elites (transcript of member check)</td>
</tr>
<tr>
<td></td>
<td>Review by expert panel (transcript of member check)</td>
</tr>
</tbody>
</table>

3.17 Method Summary

This study used a series of grounded theory methods (primarily elite interviews and secondarily document analysis) to elicit the performance systems of Colleges of Agriculture that aid in building and maintaining institutional engagement. Elite interviews and document analysis based
upon the conceptual framework presented in Chapter 2 were used to construct descriptions of the engagement initiative within the College of Agriculture. These descriptions represent the elites' views on how their organization builds and maintains institutional engagement. These descriptions were used to search for overlap, commonalities and patterns across the organization.

This methodology was used to fulfill the purpose of the study — using internal stakeholders as a starting point to better understand the process of building and maintaining institutional engagement within a College of Agriculture. The methodology did this by accomplishing the three study objectives. Specifically it:

- applied the conceptual framework based upon complexity research, literature and the researcher's experience;
- used this conceptual framework to empirically describe how organizations, specifically a College of Agriculture, build and maintain institutional engagement (through the development of the initial interview schedule and coding scheme); and
- sought commonalities across these descriptions by creating a single meta-description.

The researcher used the method to fulfill the goals of this study by answering the research questions:

1. What are exemplary College of Agriculture detectors (i.e., inputs), internal inputs and influences external to both the College and University?
2. What are exemplary College of Agriculture rules for processing the input from detectors and, through resources, build and maintain effectors (i.e., services)?
3. What are exemplary College of Agriculture effectors (i.e., outputs) used to meet stakeholder needs?

By better understanding the role that internal stakeholders play in building and maintaining institutional engagement, the researcher can begin to better understand the processes at work within The Iowa State University College of Agriculture.
CHAPTER 4
FINDINGS AND DISCUSSION

4.1 Introduction

The previous chapters outlined the scope of this study, the relationship of the investigation to existing research, the conceptual framework used in the study, and a research design and methodology for the study. This chapter reports on the results of the study. It presents the data of the study in answer to the research questions:

1. Is there a clear sense of what engagement means among various internal agents?
2. Do College of Agriculture internal agents have a clear commitment to the basic idea of engagement?
3. Is there strong support from internal agents for infusing engagement into the teaching, research and outreach activities of the College of Agriculture?

The answer to these questions satisfy the study’s three specific objectives: 1) to build and apply a conceptual framework based on organizational adaptation theory, literature and the researcher’s experience, 2) to empirically describe, by applying the conceptual framework, how College’s of Agriculture, build and maintain an engagement agenda; and 3) to seek commonalities across these descriptions that will add in advancing the engagement agenda within other disciplines in higher education. Ultimately this data assists in making the ambiguous, complex situations of institutional engagement within a College of Agriculture more clear.

The chapter is organized into four parts: 1) general results, 2) a series of stakeholder perspectives that are empirical descriptions, 3) a discussion of commonalities among the human action perspectives framing an institutional engagement blueprint, and 4) an analysis of other findings related to the conceptual framework and methodology utilized.

4.2 Empirical Findings

In a series of grounded theory methods (initial review of literature, numerous brainstorming, think-aloud and question-asking sessions, along with an intensive participant observation plan) the researcher invited the internal agents to discuss topics related to the process of building and maintaining institutional engagement. These included engagement issues such as responsiveness,
respect for partners, academic neutrality, accessibility, integration, coordination, and resource partnerships. Findings indicate that the college is moving gradually to adopt various institutional engagement approaches. Nevertheless, much work is needed in the adoption of various institutional mechanisms (structure, power and mission) to support those approaches.

Since engagement has become a major issue for both Iowa State University and the College of Agriculture, due to external demands for accountability and to recent attempts to organize around outcomes or competencies (ISU Strategic Plan, 2000), the researcher pursued perspectives from internal agents on engagement and their use in defining College of Agriculture tasks. In addition, attention to broader evaluation issues such as performance indicators and procedures were addressed. In discussions with agents, I gathered information on the role of their departments and/or centers, along with the institution's history, goals, activities, and resource base. Toward the end of conversations with various agents, the conversation turned to the future — the anticipated operation of the college and university, conceptual frameworks for the twenty-first century, and the most important issue in higher education from the perspective of the agents (internal and external).

Each person responded to the list of topics in terms of what was critical or most important to his or her conceptualization of the college/department and institutional engagement, hence, the responses were highly individualistic. After data collection was completed, all responses were given codes, and a composite report of the views was produced. Analysis of the results yielded certain commonalities across stakeholder groups, but the most striking characteristic of the results was the mosaic of interpretations.

Stakeholder comments aided in the construction of institutional and departmental benchmarks, that is, best practices or aspects for optimum institutional engagement. Evidently, the setting in which engagement takes place and the role of the stakeholder in providing engagement supplies the backdrop for their comments. The quotations from the interviews allow complex interrelated issues to be presented in a manner that does not oversimplify them, yet provides provocative insights into the dilemmas College of Agriculture internal agents face. The issue stimulating much of the discussion is how higher education and the College of Agriculture contributes to the society that houses it. This leads to the question of which roles a college and/or department can and should fulfill within its larger community and how a college and/or department might redefine their goals and priorities.
4.3 Responsibility of the College to Society

At the beginning of the twenty-first century, with the reallocation of government funding and global economic imperatives, higher education is increasingly being asked to operate using an economic model in which the important consideration is: What impact does the institution play in society? On a continuum of interaction with society, higher education institutions — like Iowa State University and its College of Agriculture — have a multitude of roles, ranging from universal to local. At the most universal end of the continuum, a college — as the intellectual or nerve center of the learning society — influences society through knowledge construction (Newman, 1976). As a center for research and technology advance, the college plays a more direct role through application of that knowledge (Cole, 1994). As critics of society or guide to the nation for the betterment of humankind, the college is explicitly involved in the development of society (Organization for Economic Cooperation and Development, 1982).

Each role has a different focus and implies a particular institution and set of criteria for evaluating outcomes. For example, as the intellectual or nerve center of a learning society in which the college is a source of intellectual leadership, control or energy, the role is predominantly epistemological. As an intellectual center, systems of meaning, theories, models, and methods for organizing information assume precedence. Knowledge is its own end (Newman, 1976). The justification for a college, then, is that it unites young and old in the imaginative consideration of learning, and the task of the college is to weld together imagination and experience (Whitehead, 1929). The criterion for success is significant knowledge and the function of the college is to stimulate inquiry and reflection. This role renders the college autonomous, or at least relatively independent of society in its operation, yet intimately connected with it for the ultimate well-being of society.

As a center for research and the development of technology, the college fulfills both epistemological and economic roles. A center for research suggests a professor-centered arena where success depends on research grants and publications. In a discussion on the dilemmas of choice facing research universities, Cole (1994) points out that academic leaders recruit and support scientists and scholars who have made or are apt to make seminal discoveries — those who define fields and specialties. The emphasis is on the production of new knowledge. In looking at the engagement initiative, several respondents concur with Cole, and provided the following statement:
We need to hire the best-trained, broad based scholars in our fields. At first blush, this may not sound like the answer, but I firmly believe that it is a critical part of providing effective interaction with our constituents. For the university to be positioned to effectively work with various constituents in providing solutions to social problems, we need the brightest and best-trained scholars. The biggest mistake we make in hiring is to focus jobs and job descriptions narrowly on single areas. Faculty are around the university for 30+ years, but the important issues of the day change on a regular basis. If we are to seriously serve our constituents in the long term, we need to continue to hire outstanding scholars with broad interests and technical abilities so they can work on the ever-changing problems and issues of the day. (Professor)

Hire and retain first-class research faculty. Since they study real world problems, they respect those in it. To retain researchers like this, reward them (money, status or time) for engaging society. (Associate Professor)

Universities used to be more engaged. They served society and students better. Then we specialized. Now we are re-inventing engagement. Hire the right people. Let them do their jobs and the alliances and partnerships will develop. Try to rush these things through quick, intense actions results in a reward system that favors superficial, quick relationships. (Staff member)

Corollary to this emphasis, however, is the application of knowledge through integration and application and expertise appears to be the defining criterion. In this role, the college has a contract with society to supply expertise in the form of problem solutions or the next cohort of experts, and the public has a direct stake in the outcomes. Two respondents noted that in order to advance the engagement initiative the current emphasis on expert-model may need to be reconsidered.

In my opinion the first step towards institutional engagement would be to develop a true process whereby [the institution] ‘shakes’ its’ big-brother, all-knowing, expert-model image. (Associate Professor)

It appears that we first need to admit that we do have an expert-model focus, rather than a societal needs focus, than admit that changing that philosophy will be very, very difficult, followed by expending resources to develop new processes for dialoguing with our publics, and than finally reward change in our processes that salute and work toward permeability. (Associate Professor)

As a guide to society for the betterment of human kind and as critic of society, the college plays a sociopolitical role in the way that it responds to societal needs. In the role of societal guide or critic, the focus is on wider issues, and the criterion for success is societal change and development. Thus, the function of the college as social conscience is also linked to its epistemological role, which requires determining what knowledge is significant and what criteria are used in making judgments. Troubling issues in society can be resolved only if inquiry is encouraged and time is allotted for
reflection. Sutton (1994) makes the argument that the old reverential regard for colleges and universities rested on dual faith in the essential roles of highly educated people and of the advancement of knowledge for the betterment of the human condition. A concrete example of how societal issues have been dealt with in the college was provided by a respondent:

Speaking from a production agriculture standpoint, my sense is that from the county to the multi-county to the Campus the definition of constituency changes. County staff, often deal with clientele as people from greatly differing scales of production and economic impact in the community and the state. From the Campus level, and often at the multi-county level, the most important constituents seem to be the largest 15-20% of the producers (operations) that have the largest economic impact in the community and state (based on ag products purchased and marketed). This is justified on the basis of "limited research and Extension budgets". The big losers in this situation are the numerous "small producers" and rural non-farm residents who try to maintain "not-for profit" farm-like lifestyles. Their education needs are just as real (often greater because they have no practical farm background), the "large size programs" often delivered by ISU are not well tailored to their needs. This population is considerable, it is increasing, and they vote. If ISU is serious about 'engagement', it needs to be more people responsive than production scale responsive. This will require a significant effort for Extension (Campus, multi-county and county) to gear up with publications, demonstrations, programs etc. that really address the educational needs of the "small is important too" clientele. Some counties have been doing this already, but there has been little or no support from the production Ag folks on Campus. (Staff member)

The roles of colleges as intellectual centers, research producers, and societal developers often overlap. Advocates of one or another role are more likely to divide along disciplinary lines than according to type of role one plays in the institution (faculty, staff, administration). Widely apparent in responses from the respondents, was the demand being placed on colleges to shift priorities and to respond to a wider constituency base. Specific examples of how societal issues can be addressed and the college can become responsive to societal needs was provided by the following respondents.

Place priority on the needs of our stakeholders. Right now I think that we are often driven by dollars rather than serving the needs of people. This is not in step with the land-grant philosophy. (Assistant Professor)

We need to make sure that we are cognizant of the portions of the constituency that are non-farm stakeholders. Agriculture, and our mission relative to it, involves much more than the traditional approaches to clientele needs. Urban and community agriculture are much broader than farming, and they require that we address those needs in novel ways. (Associate Professor)

We need to really listen to agriculture and natural resources interests and truly seek their input. To date, it seems that we just listen to the organized commodity groups that are little more that lobbyists for a rather narrow group of agricultural
special interests. Agriculture, to be viable in the future, MUST be more flexible, sustainable and broad—and, if we are to actually be "ag and natural resources," then we must seek out the opinions of both urban and rural people about natural resource issues and concerns. This includes people, agencies and organizations that know little about agriculture (in the traditional sense) but know and care a lot about Iowa, about its culture, and about all of its natural resources. (Professor)

In some circumstances, especially in the College of Agriculture, society has turned to the university as the major resource for social problem solving, as well as for intellectual development. Society has thus placed not only the responsibility for developing the next generation of vocational and intellectual advancements on higher educations shoulders but also the burden for its well-being. Thus, the role the college can and should fulfill in a given community requires closer examination of both societal needs and the institution itself.

4.4 The College Redefined as a Social Institution

What can realistically be expected of the College of Agriculture today? Lane (1992) contends the growth in the importance of a college/university to its communities in the last half century has led to a thicker web of reciprocities between higher education institutions and the local environment. It could be said that the College of Agriculture should reflect its local communities in the sense that the structure of the community is a frame of reference for the identification of the mission and to some extent a constraint on the mission of the institution. To illustrate, the transition in the College of Agriculture from mass education to elite, responded to a public need but created a new set of pressures and required major adaptation on the part of the institution. According to Lane (1992), the community does not shape the destiny of the institution and is more frequently symbiotic with it, but its particular interests may at times conflict with the more universalistic orientation of the college. For example, the principle of academic freedom may lead colleges to support research findings that a community would judge politically incorrect and socially harmful. The respondents described a mosaic of approaches to the redefinition of the college. Four criteria can be discerned to determined the nature of the mission a college undertakes: 1) exclusive competence, 2) responsiveness, 3) neutrality, and 4) clarification.
4.4.1 **The Criterion of Exclusive Competence**

To differentiate the nature of the College of Agriculture's mission within the larger community, one important criterion is whether some other social agency can respond to the problem or whether only the college is equipped to deal with it. By accepting the transfer of resources from a community, locally or more broadly, the college commits itself to deliver certain services to the community. One respondent explained why direction to knowledge is just as important as discovering knowledge:

> The capacity to serve our stakeholders in diverse ways is the most critical aspect of engagement. If we are even perceived as just another group promoting self-interest, we will not be listened to or, as often, invited to speak. If we cannot give sound, knowledgeable, scholarly answers, we should reference the questions to someone who can. Helping people to find the right answers is as important as having the right. (Professor)

Land-Grant colleges in particular may feel flooded by demands to respond to a wide variety of needs, more so when the resources that are required to respond exceed those the college has. When resources to the college are being cut back at the same time, a redefinition of the role that affects how the college operates becomes imperative. One respondent noted that this redefinition of engagement has an impact on several levels.

The public is redefining their expectations of the university as usual. Policy makers (like the Kellogg Foundation), those people who provide funding to the university, are reexamining this redefinition, not only within light of their own organizational value system but in light of what the constituency argues the university should do. Yet, many often overlook the simple premises, that if engagement is to take hold in the university it needs to be made a consistent and important part of the university recognition and reward system. It cannot be RESEARCH and GRANTS and PUBLICATIONS and then teaching and then extension, and then "service." In and of itself service is a relatively non-scholarly term. Evidence of "engagement" should be considered a core and fundamental part of research, teaching and extension. Not just outreach as is classical for extension but listening and responding. (Professor)

The following respondents provide two concrete examples of how college faculty have been given freedom to define their role and disconnect from society.

To cut to the chase, most of us are impossibly saturated with activities and the notion that yet another sink for our time exists is overwhelming. We deal with this at the organizational level by making it the responsibility of some of us to be people who represent us with the public and who should channel appropriate information to the remainder of us when relevant. This second step is completely broken down for a number of reasons. One clear reason is that in the internal "hierarchy of prestige" researchers who draw large external grants and busy
themselves with techniques do not feel beholden to anyone else, least of all extension personnel with ideas that come from the community level. Simply put, the incentives and rewards that most matter to career-minded faculty at universities have little to nothing to do with public and social goals in practice, though in theory these themes are loudly touted. (Professor)

One of the criticisms being leveled at any research university is that the focus and the emphasis is too much on research and not enough on providing a quality education or serving the needs of the larger community. I think that those charges are to some extent accurate, but they dismiss what the university or College of Agriculture really does for a community. This is a very complex place, and there are a lot of things that affect its operation...the operational load of this college like others was based on a time when there was access to a lot of resources so that we could follow different directions. In the process of doing that, not only did we overextend ourselves but we created certain expectations that we were not able to meet for a variety of reasons. I think now we need to say, “What are those expectations, and which ones can we adequately meet, and which ones can we not meet and maybe are the province of some other group?” (Professor)

It is imperative to analyze what roles other social agencies can fulfill, as a means of limiting the pressure to fulfill all of society’s needs and thus diverting attention from what is most critical for the College of Agriculture to accomplish. One respondent took stock in the competency the college should provide in meeting changes in society.

Iowa State University should maintain an image as a source of objective science, for that is our only real claim to fame. If our image is tainted by research funded by outside sources of major money (some even having proprietary claims), maintenance of the facilitator with no position, or extension programs for only those who pay, our claim is undermined. There are times when the science of a situation must be laid out for the benefit of society even though it is politically unwanted at the time. Only through providing objective science can Iowa State University maintain a role in society that is important and is unique. (Associate Professor)

As this respondent’s statement encapsulates, it is clear that the advancement of knowledge is the most central mission to a university or college. On the other hand it appears that the constituency the college serves continues to impose certain conditions on the institutions operation, while calling for greater responsiveness on behalf of the institution in looking closer at the knowledge needs of society.

4.4.2 The Criterion of Responsiveness

The nature of the constituency of a college and the extent to which that constituency is also the provider of resources has increased in importance in determining the mission of the college.
Entitled resources made available to higher education through government and other official channels are being reallocated, making research grants a more important resource. The threat of reallocated resources has led colleges to be more accountable and to restructure — to do more with less, or to decide what has to go and who to serve.

The data made it clear that the reallocated resources made available to the college through official channels have had an impact on how faculty conduct business. Many respondents spoke about the problem of resources, some relating it to a sort of no-win situation, both at the department and college level. Others focused on how to reorganize the college’s activities to gain resources for the engagement initiative.

In order to be real, engagement issues need to be funded from reallocation of current resources. I believe that the number one resource for engagement will come from our HUMAN RESOURCE. Our best frontal attack would be to make engagement “job one” at ISU then allocate the appropriate financial resources to activate the essential human resource. (Associate Professor)

It’s a catch 22...we need constituent support to get the resources to be more engaged...but in order to get that support we already need to be engaged...and we aren’t. So without cutting something major out and replacing it with an orientation to engagement we don’t have the resources to do it right. (Associate Professor)

Producing the right outcomes with palpable results will require using all resources efficiently and making sure everyone is working toward the same goal. If you ask for the right things, this will take care of itself. All it requires is leadership from top to bottom. (Associate Professor)

Departments are afraid to place value on engagement to the point that faculty and staff will devote resources to it. Again, it goes back to the reward system. Faculty know how to translate expert knowledge into something the public can use, but the rewards to do so are not there. Colleges and the university have to demonstrate they will reward engagement before faculty will take a chance. (Professor)

Changes in sources of funding are changing the ways colleges should be thinking about their missions. An obvious effect is to consider what the likely source of funds will be in the future. One respondent considered that for the way we seek out funds, contending that the financial situation faculty face today constitutes a wake-up call for college to ask the question, Why are we here?, and in answering that question to establish goals and procedures for meeting them to accompany the reward system adjustments that will need to be made.
A reward system based on criteria other than grantsmanship is needed. As long as highest dollar brought into the university receives the highest pay raises, awards, and recognitions, individuals will pursue funding where they can obtain it regardless of the applicability to major Iowa State University stakeholders. Direction of Iowa State University is now determined by funding sources. Work floats to the mainstream of funding resulting in important work in areas without major funding to go undone. If you can tell me the focus of future funding, I can tell you the focus of work at Iowa State University regardless of what plans our stakeholders say. Pavlov’s dogs model Iowa State University behavior. Or it could be the golden rule; he who has the gold makes the rules. (Associate Professor)

The effect of the threat of dwindling resources is twofold. First, as one respondent stated, it has provided a need to be more accountable, that is, to prove that society is being served efficiently and effectively.

To become an engaged institution, we first have to understand our stakeholder needs. To often our faculty and institution is to far disconnected from societal needs. For example, the mundane, production questions and problems at the producer and ‘local community partner’ level are sometimes addressed by Extension staff and a few ‘applied research-oriented’ campus based faculty. However, most of the campus-based research faculty is so far into their “basic” and “publishable” research areas that they often cannot communicate their research and its worth to a producer client. This lack of accountability to local needs is most likely in response to the review process in place (publish or perish). (Assistant Professor)

Second, it has revealed the need to restructure, so that there is a better match between performance and the reward system. Although not easily changed, concrete examples of how important the reward system is to the process of building and maintaining institutional engagement was provided by the following respondents.

The reward system needs to be put in line with strategic plans and strategic plans need to be aligned with stakeholder needs. One could argue that rewards are in line with strategic plans and strategic plans are in line with current funding sources. Problems should be defined and then funds sought to solve the problem, instead of funding being found, and problems defined to acquire the funds. (Professor)

Our department is reasonably well-linked with some agencies but poorly partnered with private industry. Both are important but the degree to which they are important will vary by the department. I believe that some departments are, in fact, too closely linked with some industries, causing their research agenda to be slanted toward those of their partners. While we must certainly respond to the needs of our constituents, we must not lose sight of the need to continue to answer more basic research questions that lead to practical insights down the road. I think we also need to be more interdisciplinary in our approaches. This will allow us to tap into each other’s strengths across disciplines and create new,
maybe better, solutions to problems than when we work in isolation. There must also be created recognition and institutional advancement for those that engage in interdisciplinary projects (teaching, research, or Extension). The reward system for such efforts simply don't exist now. (Associate Professor)

The internal stakeholders, ever more knowledgeable and needy, is gaining greater voice in the direction a college or university takes. Thus, accountability and the reward system becomes immediate, if the engagement initiative is to move forward as called for by the Kellogg Commission (NASULGC, 1999a).

4.4.3 The Criterion of Neutrality

The criterion of neutrality brings to mind an extension and diversification of the College of Agriculture to the population at large. Neutrality must be balanced with the intellectual mission of the college. Since the beginning of the Land-Grant institution, when government made resources available in response to societal needs, the institution expanded to satisfy them. Now that continuing government reallocations have become a reality, some means of determining what needs have priority is essential. A pivotal test case of what a college can be expected to do within society is the question of institution purpose.

A university must be above the day-to-day fray of public choice issues while at the same time being recognized for its ability to provide meaningful insight into the future. In other words, I accept the concept that a university is an economic and social engine that promotes societal development and equality but if we're dealing with today's issues we're not really a university. We're simply another social agency, economic bureau, etc. We need to be the people who prepare society for tomorrow's issues. All of this says, we need to be a recognized neutral albeit knowledgeable and valuable party. (Professor)

If the role of institutional engagement is to be the availability of an institution to its constituency, then the College of Agriculture will be evaluated against the criterion of how well it aids a broad spectrum of constituency groups. These respondents spoke to the need for constituency input in the following manner.

Needs assessments, community round tables, listening to others than those who are presently in power. Many at ISU never meet regularly with stakeholders outside the institution; it might be beneficial to require ISU academics to meet with potential stakeholders (although this would probably fail because faculty would be against it). (Staff Member)

The targeted population should be the primary partner, then the department should search for others interested in meeting the same need and work together to
provide the service. Efforts should be made to see how the primary partner can meet needs of the department. (Assistant Professor)

A truly representative group of constituents should meet with faculty, staff and administration. Currently there is input to the administration but not to faculty and staff. (Associate Professor)

Finding ways to gain constituency input was a continued theme that ran throughout this study and the respondent’s comments. Yet, if on the other had, the college is envisioned as a center of intellect biased by funds, as the following respondent suggest, the neutrality of the institution may be called into question and possibly affect how knowledge is developed and perceived.

I doubt we are neutral now. Big money has biased us, neutrality is important to keep interest by broad constituencies and not just special interest groups. (Professor)

Academic neutrality is very important, but with mandates to bring money for research into the College because of shrinking budgets, it seems that money now drives many research agendas. I think Nader was correct in his assessment that the College is married to biotech....at what cost? (Assistant Professor)

I'm concerned about the growing number of alliances between ISU and private companies. I understand the motivation to get sponsorship and funding from private companies, but I worry about the potential for inappropriate influence on students or research outcomes. (Associate Professor)

Neutrality is essential. Our role in society must be one of an honest broker of information. If we are perceived as being beholden to any special interests we will lose credibility. Already too many Iowans believe that ISU is heavily influenced by industrial money, and that the College of Agriculture cares only for large agribusiness concerns. (Professor)

The variety of competing demands on the College of Agriculture -- for the development of human capital, for the solution of social and agricultural problems, for the production and dissemination of new knowledge, and for economic prosperity based on a competitive position in the knowledge economy --- has led to an expansion of the role that the college plays within and across society. The various demands require a different ordering of priorities within the institution leading to differentiated patterns of social engagement. As respondents concluded there is a need for a clear mission statement within the College of Agriculture and an equally clear statement of how that mission will be undertaken.
4.4.4 The Criterion of Clarification

The fourth criterion reflects the need of clarifying institutional engagement. As these respondents contend, if institutional engagement is to become one of the most essential missions of the college, then greater clarification is needed.

The question that I think really needs to be asked is, What is engagement? I think there is a disconnect among faculty and administration regarding engagement. I've heard about the new strategic plan regarding engagement, but don't really know what that means, and it has had no effect on my job as a faculty member. We faculty continue to research and teach, while administrators worry about things like engagement. (Associate Professor)

No one has taken the time to explain what engagement is, other than serving clientele, which is what we do now. I have no idea what the practical implication or definition of engagement is, and the impact it has on my position. (Associate Professor)

As these statements highlight, because institutional engagement is a complex situation, and as the College of Agriculture begins to be recognized as equally complex, clarification is essential. It appears that a crucial step may be to establish opportunities for internal agents to engage in critical reflection of engagement in their programs, departments and the college. Ultimately, what may nurture the unfolding of institutional engagement will be serious, active experimentation where organizational actors wrestle with crucial strategic and operational issues. Several respondents explained why dialogue and clarification is so important:

Engagement will differ with each department and situation the departments face. Therefore, the departmental team should determine the need and allocate the best individual to obtain that need to increase the departmental team output. This obviously will not occur as long as the perception is that grantsmanship dollars determine the rewards of salary, etc., because everyone will pursue the funding in hopes that they will be the big winner. Administrative strategies need to be developed to break up the "mob soccer" style of operation and promote a soccer team approach where the total output of the team results in winning the rewards. (Associate Professor)

First the question assumes that my department has some sort of structure... maybe so, maybe no. I honestly believe that among the first steps to an engagement agenda is in getting the DEO on board. I do not feel this is the case in my department. This being the case, in my department the key to an internal structural embrace would be to have a STRONG endorsement from the Dean... thereby causing the DEO to fall in line. The DEO would need to allow ample time to the faculty to dialogue and reach an agreement on what engagement will look like departmentally. (Professor)
Engagement needs to be clearly explained. At present many faculty perceive it simply as the latest buzzword and do not have a clear understanding of what it means. (Associate Professor)

In their analysis of programs and practices that improve education, Eble and McKeachie (1985) pointed out that administrative support is critical to the success of such initiatives like institutional engagement. To determine the role of leadership in the support of improved societal engagement, a needs assessment using an analytical tool framed in the Human Action Model (Terry, 1993) was undertaken to establish internal agents views on the organizational improvements necessary to sustain action.

The assumption of the Human Action Model is that leaders can clarify problems situations by viewing them through six generic elements of human action: existence, resources, structure, power, mission, and meaning. Terry (1993) contends these elements are present in every act, are minimal in number, analytically distinguishable, inclusive, apply readily to real life situations, are always connected, and inform and enrich both the understanding of leadership and the action of leadership.

The analytical tool was developed consisting of sixty human action element practices in policy and practice, potential leadership issues, and specific practices such as mission clarification. The internal agents were asked to rate each practice to indicate their degree of confidence in the potential of the practice to improve the quality of institutional engagement in the college or their department.

All internal agents who are listed on the administrative list serve (N=410) where invited to participate in the Analytical Tool. Following the Dillman's Total Design Method those internal agents that did not respond to the first treatment were invited to take part in the study under two additional requests. Of the 410 respondents contacted, 192 returned the Analytical Tool, a response rate of 47%. The first treatment provided 28 responses; representing 15% of usable responses and .07% of total population. The second treatment produced 22 responses; correspond to 11% of usable responses and .05% of total population. While the third treatment produced 142 responses; signifying 74% of usable responses and .35% of total population. Table 4-1 shows the results of a comparison between the earlier scores of those who participated in the Analytical Tool versus the later scores of respondents. There was no significant difference between the sub populations at an alpha level of .01. Using a 99% confidence interval signifies that each sub populations data reflects the attitudes of the population as a whole.

The means for the Analytical Tool were calculated for the 192 respondents and the institutional engagement data is illustrated in figure 4-1. Elevated levels of concern were expressed
regarding the element of mission (mean 7.30, SD 2.43). Structure (mean 5.83, SD 2.29) and power (mean 5.62, SD 2.77) were considered moderate, while resources (mean 3.64, SD 2.10), meaning (mean 3.58, SD 2.06) and existence (mean 2.77, SD 1.70) appeared to be less noteworthy barriers to human action and institutional engagement. The results of the analytical tool suggested a strong degree of consensus among faculty, staff and administration that there is some possibility that the process of building and maintaining institutional engagement may perhaps be hindered due to lack of clarification of the engagement mission, and the current structure and/or power in place.

The means for the Analytical Tool were calculated for the stakeholder subgroups (faculty, staff and administration). The 192 respondents break down as follows: faculty 148 (77%), Staff 16 (8%) and administration 28 (14%). Table 4-2 looks at element by element, and provides the mean score for each human action element by individual subgroups. While all groups concur that there is elevated levels of concern regarding the element of mission, it appears that the administration has lower concerns overall. If the administrators were somewhat more modest in their rating of most improvement practices it could be that they recognized their immediate responsibility for putting the practices in to place and the potential costs and impediments.

Table 4-3 compares the human action elements based on the number of years a stakeholder has served the institution. Although the needs of individual groups varied somewhat, the overall affect of the study was to establish direction for the college as a whole.

<table>
<thead>
<tr>
<th>Table 4-1: T-test for Confidence coefficient</th>
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<tbody>
<tr>
<td>Element</td>
</tr>
<tr>
<td>--------</td>
</tr>
<tr>
<td>t-alpha</td>
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<tr>
<td></td>
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<tr>
<td>Existence</td>
</tr>
<tr>
<td>Resources</td>
</tr>
<tr>
<td>Structure</td>
</tr>
<tr>
<td>Power</td>
</tr>
<tr>
<td>Mission</td>
</tr>
</tbody>
</table>

Degrees of Freedom: 48, 168, 162
Two tailed Level of Significance: .01
Average Stakeholder Scores

Table 4-2: Comparison of Mean Scores by Stakeholder Subgroups

<table>
<thead>
<tr>
<th>Element</th>
<th>Faculty (N=148)</th>
<th>Staff (N=16)</th>
<th>Admin. (N=28)</th>
<th>Total Group (N=192)</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission</td>
<td>7.58 2.25</td>
<td>7.00 2.28</td>
<td>5.57 2.95</td>
<td>7.57 2.43</td>
<td></td>
</tr>
<tr>
<td>Structure</td>
<td>6.01 2.20</td>
<td>5.69 2.73</td>
<td>4.61 2.35</td>
<td>5.83 2.29</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>5.97 2.55</td>
<td>4.69 3.26</td>
<td>3.71 3.02</td>
<td>5.62 2.77</td>
<td></td>
</tr>
<tr>
<td>Resources</td>
<td>3.90 2.11</td>
<td>2.88 2.03</td>
<td>2.29 1.61</td>
<td>3.64 2.10</td>
<td></td>
</tr>
<tr>
<td>Meaning</td>
<td>3.80 2.07</td>
<td>2.94 1.95</td>
<td>2.29 1.61</td>
<td>3.57 2.06</td>
<td></td>
</tr>
<tr>
<td>Existence</td>
<td>2.84 2.84</td>
<td>2.25 1.34</td>
<td>2.64 1.83</td>
<td>2.77 1.70</td>
<td></td>
</tr>
</tbody>
</table>

Figure 4-1: Average Stakeholder Human Action Element Scores
Table 4-3: Comparison of Mean Scores by Number of Years associated with institution.

<table>
<thead>
<tr>
<th>Element</th>
<th>0-5 years (N=20)</th>
<th>6-10 years (N=36)</th>
<th>11-15 years (N=26)</th>
<th>16-20 years (N=20)</th>
<th>21-25 years (N=48)</th>
<th>26-30 years (N=26)</th>
<th>31+ years (N=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mission</td>
<td>7.85</td>
<td>7.42</td>
<td>7.73</td>
<td>7.60</td>
<td>6.77</td>
<td>7.69</td>
<td>6.25</td>
</tr>
<tr>
<td>Structure</td>
<td>6.45</td>
<td>5.69</td>
<td>6.08</td>
<td>6.70</td>
<td>5.10</td>
<td>6.38</td>
<td>5.13</td>
</tr>
<tr>
<td>Power</td>
<td>5.95</td>
<td>5.64</td>
<td>5.46</td>
<td>5.80</td>
<td>4.92</td>
<td>6.46</td>
<td>5.94</td>
</tr>
<tr>
<td>Resources</td>
<td>3.20</td>
<td>3.67</td>
<td>3.69</td>
<td>4.80</td>
<td>3.06</td>
<td>4.08</td>
<td>3.63</td>
</tr>
<tr>
<td>Meaning</td>
<td>3.25</td>
<td>3.67</td>
<td>3.42</td>
<td>4.80</td>
<td>2.92</td>
<td>4.15</td>
<td>3.63</td>
</tr>
<tr>
<td>Existence</td>
<td>2.50</td>
<td>2.89</td>
<td>3.15</td>
<td>3.10</td>
<td>2.33</td>
<td>2.77</td>
<td>3.13</td>
</tr>
</tbody>
</table>

The most positive findings of the analytical tool was that faculty, staff and administrators agree that greater emphasis must be placed on clarifying the institutional mission regarding the engagement initiative. While on the other hand as these respondents confirm that many structural and power issues must be considered prior to moving the engagement agenda forward within the College of Agriculture.

My impression is that as in most large organizations, top administration is not very close to the faculty ranks. Usually, whether or not such problems are remedied depends on personalities more than organizational structure. But structure should be designed to help, of course. (Associate Professor)

The administration needs to demonstrate by example a sincere willingness to respond to the needs and concerns of faculty regarding institutional engagement. If structural changes are not made to reward faculty for becoming engaged, then things will stay the same and gaps will continue to be created between social needs and institutional activities. (Associate Professor)

The administration could more actively engage with our constituencies and set up opportunities for departments/faculty to talk with relevant groups and individuals to discuss what our agenda ought to be. (Assistant Professor)

The recent administrative leadership of ISU has not had the tenants of the Land Grant University in mind as it has moved ISU toward the status of a top ranked research institution. As glamorous as NSF basic research grants, industry collaborations and patents are to the Administrators, they have little value to the average citizen of Iowa. (Associate Professor)

Administration must not become involved with the "outsiders" at all. The administrator should provide a smile and a list of experts only. (Staff Member)
The main limitations to engagement I have seen at ISU come from administrative focus on quantifying engagement activities, which as I wrote in the previous answer, are quality activities. This means counting the number of activities is meaningless. In fact the pressure to have more engagement activities results in more poor quality activities. We have to decide which engagements are good, which ones aren't. (Professor)

One question these findings raised was, "Where does the onus for institutional engagement lie?" Another was, "What is the relationship between the role administration plays and the role faculty plays in advancing institutional engagement?"

4.4.5 Criterion Summary

The College of Agriculture has many potential roles — as a center for research, a guide to the nation for the betterment of humankind, critic of society, and intellectual center of an engaged society. Each role implies different criteria for evaluating outcomes. Some of the criterion (exclusive competence, responsiveness, neutrality, and clarification) for advancing institutional engagement proposed may be considered more appropriate than others, but all may serve as potential processes for improving the institutional climate.

Building on the foundation of the criteria proposed, it is important to find ways to ensure that faculty, staff and administrative efforts are maximized to aid in the development of institutional engagement. In the next section faculty, staff and administrators talk about the issues of greatest importance to them and the ways they see improvements can be made to the mission, structure and power of the college. The question the researcher was led to ask was, How can the College of Agriculture administration ensure that they are providing an environment in which faculty, staff and administrators learn to think institutional engagement and to become participants in societal issues?

4.5 Frameworks for Improving Institutional Engagement

Two administrators recapitulated both the importance and challenges to building and maintaining institutional engagement.

If we want to approach this in some sort of systematic manner we need to develop plans at both the College and Department level. Unfortunately, doing so requires a commitment of time that is hard to find. We are currently asked to do so many tasks without a strong sense of priority that it leads to working on those things that need immediate attention. Consequently, we rely largely on anecdotal
information and occasional less than adequate surveys of one sort or another. To be successful we need a strong sense of need, which we don't seem to have, and the time to design and conduct a reasonable engagement. If we continue to function as we have, we will simply circumnavigate societal needs and the engagement initiative. (Professor)

Engagement is extremely important. It is also difficult because outside funding with specific interests leverages the state-funded universities. In addition, faculty too often are enamored with techniques and career goals at the expense of social responsibility. Emphasis on social responsibility, personal integrity and protection of academic freedom are essential for administration to project and faculty to embody. (Professor)

These comments highlight that the relationship between society and higher education appears noticeably strained and that unless changes are made within the colleges structure the engagement initiative will most likely not move forward. In turn, this kind of thinking has led to an examination of the way colleges operate and, specifically, how they make decisions. Higher education experts have approached the problem from various perspectives from the sociological to the managerial. At the broadest level, the question is of self-conception or identity (Clark, 1995a). The way that a college defines itself determines how it will be managed, and self-definition is the first step toward the deliberate design of institutional engagement. Knowledge of the various internal agents and how they operate is a critical need for designing institutional progress. As one respondent declared,

...if we honestly utilize a process of internal needs assessment whereby we first seek to understand the faculty, staff and administration, and equality in defining their needs we will have the appropriate "seeds" for institutional engagement. From that point we can develop appropriate "filters" that will help us determine what we should and should not address. Contentious or not...if we expend our human and financial resources to address that which is appropriate to our defined mission, vision, values, and resource limitations, within the realm of education we will be on the appropriate track. (Professor)

A second step in the process of advancing the engagement initiative is to clarify the colleges mission and set priorities. In a study of thirty-five research universities, Taylor and Schmidtlein (1995) found setting priorities to be an important environmental issue in strategic planning, along with the previously mentioned issue of declining resources, changing societal needs, increasing competition, and decreasing public interest. Internal issues bearing on strategic planning include changing cultures and attitudes, reallocating resources, dealing with a decrease in the infrastructure with an increased emphasis on outreach and engagement and the effective utilization of faculty and staff. As one respondent pointed out:
Most faculty tend to focus their research efforts on areas where research funds are available. So to some extent we do respond to the needs of a certain set of constituents. Most of these programs have been developed at the national level and may or may not be well suited to address needs within the state. Unfortunately, funding available to address local needs is often non-existent. While our salaries are covered, in many research areas significant amounts of funding in excess of salary is needed for extended periods of time in order to do meaningful research to address needs. As flexible funds have declined as a result of cuts and inflation, our ability to respond has been limited. In order to counter this continuing trend, we must become more business like in our approach. We need better planning at both the department and college level. We need to either free up or create new internal resources. We also need to take a very close look at the "every man for himself" model that has historically guided academic units. Defining important focus areas by consensus and agreeing to discontinue work in some low return areas will be needed. If we can work more as teams on mutually defined focus areas we can become more responsive, have a process to seek input and measure output, and build a stronger tradition of community partnership. We need to recognize and reward the person that gets a $10K grant to work on a local problem in the same way we do someone that gets $100K to work on a national issue. (Associate Professor)

A third approach to improving the engagement efforts is at the macro-institutional level or as Peterson (1995) states "to view the college as a multinational knowledge industry in which the relationship between knowledge and information is critical, and relearning and economic productivity enter the equation as objectives" (p 34). This approach requires an interdisciplinary stance and a different planning process. An immediate effect of taking this approach is the need to develop an information strategy that brings faculty, staff and administration together. These respondents described the need for an improved strategy of interaction as follows:

Communication, trust, support, and cooperation are needed to make a system function. The current system, using top down management style at the university, does not lend itself to working effectively for any cooperative effort, such as engagement. (Professor)

Change the reward structure so it acknowledges team play to a similar extent as individual achievement. This could be done with existing resources and be used as a way to leverage funds and bring in additional funds. People working together could achieve more than each working alone. (Associate Professor)

The fourth measure to improving institutional engagement revolves around the internal processes for reengineering the college. These approaches operate at more specific levels and so are closer to institutional practice. For example the reengineering process at the Massachusetts Institute of Technology is designed to fundamentally change the way work is performed to achieve radical performance improvements in speed, cost and quality (Bruce, 1995). The basic principle underlying
the reengineering process is that it must reduce work. MIT has instituted reengineering procedures in its administrative work processes, including facilities maintenance, management reporting, student services, and research proposals to reduce overhead on research grants. The process requires skillful management. One respondent described the need for improved leadership as follows.

Administration is truly running around frantically without direction and without true leadership skills necessary to focus the team on issues of importance - engagement or other wise. There is no doubt that this college will very soon lose its status among the best if they do not simply get their acts together and show true leadership. This is not a judgment on personalities or even their motivations as much as their abilities to get the job done. There is tremendous decline in faculty morale, total lack of team work, a great deal of back biting and it could be eliminated by true leadership and team building. Do not expect all members of the faculty to perform in all aspects of the tri-partite mission. Pull key expertise together to build effective team efforts. (Professor)

While this respondents' comments are noteworthy, it is also important to point out that reengineering does not need to be limited to administrative work processes alone. The major complaint among faculty is that they are overworked or the reward system does not provide for engagement. The application of reengineering to the faculty work could alleviate the stress many of the respondents were experiencing.

I object to the use of buzzwords created periodically by administrators. Engagement falls into this category. Our missions and plans should be more simply stated. To help accomplish our goals, administration could help greatly by freeing up faculty from much of the nonessential committees, redundant initiatives, and bureaucratic busywork. I view this engagement initiative and strategic plan process as much more of a hindrance than a help. They add to the empty busywork that wastes time and discourages productivity in our teaching, research, and outreach mission. I truly feel that administrators should realize this is a serious problem and search for ways to free their faculty and staff up more to be productive. (Professor)

We need to stop asking people to do more with less resources. Every time I hear that there is going to be greater emphasis put on outreach (or anything else), I wonder just what it is that I am currently doing that I should put less effort into. Should I work a little less hard at teaching? A little less hard at grantsmanship? Where do you want us to reduce our efforts in order to increase our engagement efforts? If the university is going to seriously make changes in response to the Kellogg report, they need to provide the resources to do so, primarily in the form of more faculty and staff. (Assistant Professor)

The fifth stage centers on the leaders ability to establish benchmarks and guidelines. Benchmarking is a strategy for organizational learning that examines performance and the processes that lead to high performance. A benchmark is a point of reference to which practice can be compared
and evaluated—a process of evaluating the products, service, and work process of organizations that are recognized as representing the best practices for the purpose of organizational improvement (Blumenstyk, 1993). In performance benchmarking, performance in one's own institution is compared with that of a similar institution considered to be more effective. Once performance gaps have been identified, benchmarking consists of learning about the processes that enable the more effective institution or program to perform and adapting those processes to one's own institution. According to Allen (1994) the steps of the process consist of five steps: 1) plan and determine what to benchmarked (often areas where most complaints arise), 2) develop benchmark standards, 3) develop measurement standards, 4) evaluate performance and benchmarks, and 5) improve benchmarks. It is important to form a team that includes members who will be able to implement changes, and deciding on the most effective institutions in the areas to be compared. The team collects data through observations, interviews, and note taking and through document such as performance statistics. It then analyses the data, redesign operations, and monitors the performance of the modified processes.

4.5.1 Summary of Frameworks for Improving Institutional Engagement

If the quality of engagement is at issue, some of these frameworks for improvement may be considered more appropriate than others, but all may serve as potential process for improving the academic climate. Throughout the study, quotations from faculty, staff and administrators raised questions that needed to be solved. While other quotations described variable benchmark practices that can be considered and applied for improving the colleges' environment for greater institutional engagement with society. The following section provides a summary of the benchmark practices for immediate reference by faculty, staff and administration alike.

4.6 Engagement Benchmarks

The fact that engagement is qualitatively different from the current practices, means faculty, staff and administration must invest personally in the engagement process and be open to the changes that must take place in order to build and maintain the capacity for engagement. Having only a percentage of committed faculty, staff or administrators limits engagement—no matter how devoted they are—and the kind of impact they can achieve. If faculty, staff and administrators are not committed to the spirit of engagement, they cannot become engaged. If faculty, staff and
administrators do not see the relationship between understanding their agents and gaining access to them, they will not be in a position to actively control and organize the engagement process.

It appears that faculty, staff or administrators who are more intrinsically oriented to stakeholder engagement use more cogitative strategies and perform at higher levels. Those who adopt a meaning approach to engagement experience greater satisfaction in their work, higher-quality outcomes and greater impact. Engagement tasks that motivate engagement have four characteristics: choice, challenge, control, and collaboration. At the institutional level (see table 4-4), the most important way to foster the internal agents motivation for engagement is to create learning organizations or engagement communities, where faculty, staff and administrators and their engagement experiences are the focal point. Other steps include ensuring an organizational structure that supports engagement, rewarding faculty, staff and administration for effective engagement practices, and rewarding programs in which internal and external agents interact more frequently. At the departmental level (see table 4-5), ways of inducing better engagement include giving faculty and staff opportunities for more community engagement experiences, involving constituencies in the process of discovery (research), and collaborative engagement over an extended period.

4.7 Institutional Practices That Focus on Engagement

The first step in the design of effective institutional practices is to delineate the kind of engagement desired. Because there is little general institutional knowledge about the optimum context for engagement and about engagement goals, several steps have to be taken to change attitudes about engagement. Entrenched ideas about organizational structure and power, faculty roles and institutional mission must be recognized. Researching institutional engagement and development, engagement methods and strategies, and the management of the engagement process provide ways of conceptualizing engagement by focusing on organizational actors.

Faculty, staff and administration do not tend to conceptualize engagement in a way that will help them develop institutional engagement; they lack commitment and clarification, which impede the efficiency and effectiveness of the engagement initiative. Flexibility of approach to the variety of agents is critical. To help faculty, staff and administrators to become engaged with external agents and society, one engagement strategy consists of providing them with a guiding analogy for engagement, then modeling the strategies they should utilize in order to clarify goals and then to review and reward based on engagement. Organizational development and engagement advancement training programs that bring together faculty, staff, administration and external agents should be
used to elucidate appropriate engagement goals and how the internal agents (faculty, staff and administrators) can meet them. Programs like that of the College of Agriculture’s professional development program should be tailored to meet particular engagement needs. Derived from the data outlined in previous sections the following benchmarks provide procedure to advance institutional practices that focus on engagement at the institutional (see table 4-6) and departmental (see table 4-7) level.

4.8 Providing Support for the Advancement of Institutional Engagement

In previous sections, a number of benchmark practices for improving the engagement process anchored in the respondent narratives have been recommended at the institutional and departmental levels. The implementation of these practices requires the expertise and initiative of institutional administrators. In this section, the focus is placed on three of the practices the respondents considered most important — mission, structure and power. Looking specifically at the need for recognizing effective engagement, providing engagement improvement rewards and increasing the dialogue on engagement. Further the relationship between social and faculty imperatives — what the constituency asks of faculty, what faculty goals are, and how faculty are evaluated and rewarded.

Table 4-4: Benchmark Practices: Institutional Level

<table>
<thead>
<tr>
<th>Institutional Benchmarks</th>
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<tbody>
<tr>
<td>1. Create a learning organization or engagement communities, where others are committed to engagement success; make faculty, staff and administrators and their engagement experiences the focal point in college organization and policies and practices.</td>
</tr>
<tr>
<td>2. Ensure an organizational structure that supports engagement; providing a framework for faculty and staff and reward them for effective engagement programming/practices.</td>
</tr>
<tr>
<td>3. Reward programs for paying more attention to institutional engagement, so that internal and external agents interact more frequently, where mentor relationships are established.</td>
</tr>
<tr>
<td>4. Consider teaching-engagement, research-engagement, and outreach-engagement programs that allow faculty, staff and administration to integrate their current tasks into engagement.</td>
</tr>
<tr>
<td>5. Recognize time costs for planning, evaluation and intensive engagement programs.</td>
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</table>
### Table 4-5: Benchmark Practices: Departmental Level

**Departmental Benchmarks**

1. Provide new hires with insight about engagement and about the nature of engagement within the college and department.
2. Help faculty and staff set up engagement goals.
3. Help faculty and staff to articulate their goals into engagement programming/practices and attribute success to their own self-efficacy.
4. Aid faculty and staff in becoming self-regulated; tell them up-front what is at stake.
5. Foster the process of inquiry, among other department faculty and staff and across disciplines.
6. Make faculty and staff aware that the engagement task requires thinking on their part; show them how to do that in the context of the department.
7. Establish departmental engagement communities.
8. Give faculty and staff choice, challenge, control, and collaboration in their engagement tasks.
9. Provide faculty and staff with engagement tasks that improve their attitudes to engagement.

### Table 4-6: Institutional Benchmark Practices: Institutional Level

**Institutional Benchmarks at the Institutional Level**

1. Involve the entire community in the process of improving engagement — administration, faculty and staff.
2. Examine entrenched ideas about organizational structure and power, faculty roles and institutional mission, and attempt to change attitudes to embrace a philosophy of institutional engagement through active participation.
3. Develop specific programs and practices to introduce faculty, staff and administration to engagement.
4. Develop exploratory portraits of engagement activities so that faculty, staff and administrators have a reference to guide engagement practices across disciplines.
5. Provide development time, resources, and in-service preparation for faculty, staff and administrators to explore the engagement agenda.
Table 4-7: Institutional Benchmark Practices: Departmental Level

Institutional Benchmarks at the Departmental Level

1. Focus on engagement, and specify engagement outcomes to guide faculty and staff.

2. Begin by asking what engagement should be done, then decide how to best go about facilitating or foster that kind of engagement.

3. Create an environment and opportunities for faculty and staff to explore a wide range of engagement strategies.

4. Clarify engagement goals at the beginning of the year and throughout so that faculty and staff conceptualize engagement in terms of developing programmatic and policy thinking and abilities.

5. Take into account faculty and staff level of commitment and understanding of engagement, then advance that commitment and understanding so that they become contextual knowers, integrating their own and other's ideas.

6. Use evaluation methods that promote the development of institutional engagement.

7. Ensure that there is faculty and staff feedback on their engagement experiences so that program, training, and communication can be improved.

4.8.1 Recognizing Effective Engagement

Much like honoring excellent teaching, the most accepted method of honoring exemplary engagement could be to make awards to individuals based on recommendations and engagement portfolios. The kinds of awards could include ceremonial recognition, salary increases, special funds, and/or release time. Where engagement is not honored by means of awards, the argument could be that it should be its own reward. This suggests that recognizing exemplary engagement is rewarding it extrinsically, thus confusing valuing and peer recognition with what is external to the institution. On the contrary, valuing and rewarding engagement should be intrinsic to the college’s well-being. Respondents described a variety of ways of recognizing engagement.

The reward system needs to be based on outputs, not inputs. Grantsmanship dollars are an input to the research process. Publications, patents, trained scientists, etc. are outputs. To maintain a balance of work among the various areas of the university, the reward system should monitor only outputs and rewards allocated on the basis of the most high-quality outputs regardless of dollars used to produce them. Some areas just need to acquire more dollars to accomplish a unit of output than other areas. However, this does not diminish the importance of the outputs requiring fewer dollars. (Associate Professor)
The college needs to assure that efforts in the area of engagement are rewarded. Sometimes it seems that efforts in this area go completely unrecognized at the college level. That discourages persons from more efforts in that arena. That means that faculty must be appropriately rewarded for interacting with the public; at present, only Extension faculty are rewarded significantly for these interactions. (Assistant Professor)

The effect of the administration...not only providing viable recognition but also dollars for...making improvements is...better balance in the research-teaching-engagement mission. (Professor)

Be convinced that one of the highest callings we have is to serve the people of Iowa and the world. That means recognize and reward it. How many awards do we have for faculty and organizations that are engaged? (Associate Professor)

Of the more recently introduced kinds of recognition in higher education, group awards shift the focus of accountability from individual faculty and staff to groups, especially departments (Edgerton, 1993). More to the point, they recognize the importance of department collaboration in teaching and program planning for intellectual growth (Kahn, 1996). These respondents described this vary need for collaboration within the college in order to advance engagement.

Incentives and models must be developed. A training program is needed to facilitate inter-departmental and university collaboration with incentives provided to those who make an effort. (Associate Professor)

Make engagement a college priority. Provide incentives for collaboration, not just individual achievement. View departments and colleges as a whole with all individuals working together toward a departmental or college mission. Right now departments are viewed as being made up of individual faculty members in hot competition with each other to push out the most grants and publications per person. Faculty look at each other as competitors rather than players all on the same team. (Associate Professor)

In a set of guidelines for exemplary programs, Svinicki and Menges (1996) point out that the structure of a program to honor its faculty conveys important messages about an institution's standards and mission. Programs that honor faculty, staff and administration for their engagement may revitalize senior faculty, inspire junior faculty, and invigorate the scholarly life of the academy. Such programs should be grounded in research-based engagement competencies and should recognize all significant facets of institutional activities conducted by the faculty, staff and administration. Assessment practices to select candidates should be reliable and valid, employing multiple data sources, multiple measures and consistency over time. Svinicki and Menges (1996) register two cautions regarding award programs — to reward collaborative as well as individual achievements and to ensure that those who have been honored continue to contribute to the development of others as
models and mentors. Other important criteria for programs should be that they contribute to collegial responsibility for promoting exemplary engagement, encourage self-reflection about wise engagement practices and are open to scrutiny and change in accordance with new conditions. First and foremost for engagement award programs, however, is that they are consistent with the institutions mission and values, and communicate those values to the community. The next two quotations draw attention to the need to aligning the reward system with the engagement initiative.

This all comes down to the reward system that is put in place. If you reward people for be responsive to constituents, they will be. If you reward people for NSF and NIH grants and the number of research publications they put out per year, you will get grants and publications. Right now the emphasis is on grants and publications, this has diminished our outreach and education functions.

(Assistant Professor)

Reward change in our processes that salute and work toward permeability. Establish mechanisms and programs for discussions between faculty and community members and reasons to encourage faculty to develop exemplary engagement programs and practices. (Associate Professor)

In an early study by the American Council on Education on the goals of faculty and administrators in American universities, the top-ranked goals, in order of priority, were protecting academic freedom, maintaining prestige and quality in the university, ensuring the confidence and support of those who contribute financial and other resources, training students, and carrying on research (Gross & Grambsch, 1968). Quality is the second-highest priority, although academic freedom outranks it. These goals differ considerably from the roles proclaimed for universities by society. One of the respondents, when asked what the most important issue in the college was, replied that the first one for them was how the engagement process fits into and contributes to the promotion and tenure process. Given the varied demands placed on colleges, and hence on faculty, this promotion review process appears to be utmost importance.

In my field we reach out to our community by: 1) being members of educational coalitions, 2) working with new teachers, 3) attending state and national conventions of youth organizations, 4) helping with educational programming, etc. The problem is that with regard to promotion and tenure, this is not rewarded on par with research. (Assistant Professor)

At the same time, engagement that is undertaken in the college often does not have the hoped-for impact, because the goals of academic researchers are influenced by the university career progression pattern and are therefore centered on academic/research outcomes rather than on the development of the community in which they are doing their research.
If the emphasis remains on research above engagement, which I believe is currently the case, then our devotion of time will remain about the same. It would be professional suicide to do otherwise for tenure track personnel. (Assistant Professor)

Many faculty sincerely believe that the college and university administrations have no concern for local or regional problems, because they are being told very loudly and very often that to be tenured or promoted the only measure of success the administration will accept is research, publications and grants. (Associate Professor)

The goals habitually expressed for faculty members are research, teaching, and service, yet maintaining a balance among these responsibilities has been a major issue in the land-grant system. These respondents sum up what other respondents expressed concern:

Engagement would be taken more seriously by faculty if there were either rewards for doing so, or lack of penalty for taking time away from grant writing and publishing to do engagement work. (Assistant Professor)

The reality is that at a research 1 university, the faculty never quite know what hat they are to wear, whether it is a research hat, teaching hat or outreach hat. It is perfectly true that in terms of promotion, the research hat means more than the teaching or outreach hat. (Associate Professor)

Reasons for the unresolved conflict between knowledge production and dissemination are, first, that they are in some ways incompatible and, second, they have been rewarded differentially. Keohane (1994) contends that the higher prestige according to research, the availability of inter-institutional metrics for judging it, the rarity of the skills required to do it well, and the fact that it is often more pleasurable to pursue one’s own work at one’s own pace rather than to translate it for the uninitiated, combine to give research undisputed primacy in the self-definition of the university.

According to Boyer (1990) the ideal scholar, is someone that can bring together the scholarship of discovery, integration, application, and teaching. In reality, according to many respondents, this is rarely the case. While many faculty acknowledge that research is the highest priority within the college, they also believe more specifically that their administrators favor research, while declaring equal weight for engagement/service.

The faculty are strongly of the opinion that the administration is not telling the truth about what it values in faculty performance. In spite of lip service about teaching and engagement, faculty efforts in these areas are not valued. Only research counts. Why then should we worry about teaching, retention, or engagement when we will be punished for taking time off from research to work on these problems? (Professor)
The rewards for research are evident — grants, prestige, honors, invitations to speak and to travel. The rewards for engagement appear to be more subtle — a sense of civic responsibility, social impact, etc. Corollary to the rewards is the problem of self-development versus the development of others. The faculty member has the dilemma of altruism or self-actualization, of responding to society or to colleagues in the world of scholarship.

In the research university, even the faculty feel the system is out of whack in many departments. If faculty work in the community or do interdisciplinary work or at a number of things that the college says is very important, they do so is often done at their own risk of promotion and merit pay increases. (Professor) Clark (1987) points out that the greatest paradox of academic work is that most professors teach and provide service most of the time, but teaching and service are not the activities most rewarded by the academic profession and not most valued by the system at large. Administrators continually praise teaching and service and reward research and fundraising. According to Clark (1987), the paradox has its own rationality: teaching and service sustains the system by appeasing essential clienteles and by paying operating costs. However, research appeases the disciplines and rewards members of the discipline for advancing knowledge and technique.

The effects of rewarding research more than teaching and service are widespread. One major effect has been that teaching and service usually resides at the bottom of the priority list for most faculty (Kimball, 1988). The effects are felt across departments within the college. Disciplines divide work in significantly different patterns; for example, natural scientists (i.e., agronomy, bioengineering, etc) teach less and do more research, while the social scientists (i.e., sociology, agricultural education, etc.) teach more and do less research. The natural scientists, as respondents noted, then assume greater prestige than the social scientists, with greater credibility, faster promotion, higher salaries, and more decision-making power in the college.

In the college, the rationalist model still prevails, and that would mean that the promotion and tenure committee is dominated by people, whether they are agronomists, botanists or economists, who employ traditional scientific paradigms and see no other avenues toward illuminating our understanding of the physical and human world. (Professor)

The greatest problem that confronts us all is the increasingly fragmentation of specialization, which is something that we really cannot do very much about. The college departments clearly are breaking up into warring camps when it comes to resources and institutional leadership. (Associate Professor)

Some of the points derived from the respondents will not be happily received by the college’s leadership who have vested interest in high finances and external funds. Yet in times of diminishing
community interaction and calls for accountability, guidelines for permissible promotion and tenure measures are one way of ensuring faculty interest in advancing the engagement initiative.

In addition, to clarifying the engagement initiative various respondents have called for increased dialogue between administration and faculty on the issue. One respondent encapsulated what most were proclaiming.

Basically I don't understand engagement and who is engaging whom and for what purpose. With these concepts so unclear in my mind I find it impossible to have opinions about whether the engagers are doing as well as they should and whether they have the vision and resources that they need. Maybe the first thing should be to clarify what engagement means, share that definition and then ask faculty to help move it forward. (Professor)

4.8.2 Summary: Providing Support for the Advancement of Institutional Engagement

Societal demands for the solution of problems and the development of expertise differ considerably from faculty, staff and administrator’s priorities, which are academic freedom, recognition and quality. A faculty reward system in which all professors are expected to excel in research (discovery), teaching (learning) and service (outreach) may lead to early burnout. Because recognition, promotion, and tenure are based primarily on the research (discovery), and departments and programs are also rewarded within the college according to research productivity, an imbalance between research and the teaching and engagement functions has developed. Disproportionate rewards to one area, usually research, affect quality in other areas. Faculty research, teaching and engagement are symbiotic when faculty teach and provide service in their area of research. Attention to the scholarship of integration and application as posed by Boyer (1990), concerned with interpreting and putting information in perspective and practice, may link research and engagement more closely.

Derived from the data outlined in this section the following benchmarks (see table 4-8) provide administrative strategies that support faculty and staff engagement including change in the promotion and tenure measures, reward system and stakeholder dialogue.
Table 4-8: Benchmark Practices: Institutional Leadership

Institutional Leadership Benchmarks

1. Establish the needs of the college and departments by conducting in-depth surveys of administrators who are responsible for monitoring effective engagement practice.

2. Honor faculty and staff and providing opportunities for dialogue on engagement. Engagement improvement awards assisting faculty and staff in redesigning or designing programs that stress constituency engagement. A dialogue on engagement supports improvements in program design and practices.

3. Establish engagement academies for faculty, staff and administrators that leads to dialogue about engagement.

4. Institute engagement development workshops to provide a cross-disciplinary meeting place for a range of topics such as program planning, needs assessment, constituency research, etc. On-campus experts can act as resources of knowledge and experience. Outstanding engagement scholars can help address engagement issues of broad concern.

5. Focus on the scholarships of integration and application so that research and engagement are linked more closely. Help faculty conduct community engagement in their area of research.

6. Match the engagement mission with promotion and tenure and merit criteria, so that faculty can set goals within the department framework that are meaningful to them.

7. Encourage the improvement of engagement by using promotion and tenure criteria and annual reporting mechanisms that require evidence of effective engagement.

8. Carefully attend to the administration of engagement evaluations. These provide departments with information about generally accepted standards of practice, whether they are being met, and factors that may affect engagement programming and practices. Administrators must show that the evaluations are useful.

9. Use formative assessments of engagement activities to provide information about where improvement is needed. They may take the form of mid-year questionnaires, diagnostic instruments, community directed periodic evaluation, or peer evaluation techniques such as the use of a consulting faculty member who works with faculty and staff in small groups.

4.9 Institutional Assessment to Improve Engagement

The main themes in this section are institutional accountability and opportunities. Given the increasing pressures on Land-Grant and State Universities, as discussed in chapters 1 and 2, what are the optimal strategies for engagement? External stakeholder reviews can serve to make institutions aware of the need for effective planning and monitoring, but more important are internal administrative processes that are transparent, fair and lead to a sense of community. This section begins, therefore, with a review of the effects of external stakeholder evaluation; followed by an
examination of institutional evaluation, program reviews, and internal and external surveys. The section concludes with a summary of strategies for college and department engagement improvements.

The most significant external challenges to the college are to serve all constituencies groups equally well and to compete successfully in the knowledge industry. Two respondents described these challenges.

The ultimate issue is a matter of defining the college in ways that make sense in light of competing institutions or other institutions like research institutes and economic influence and technology. (Professor)

The first step is we need to carefully, identify and than examine our constituency. I think this is a fundamental component often glossed over. Really all I am saying is: The College of Agriculture should serve the 98,000 farms and 30+ million acres of farmland equally well (as well as their supporting communities). And the more disenfranchised the land or farmers or communities are, probably the more we need to serve them. After all, we are a public institution, we are a land-grant institution. We are charged with service, which is often not the same as collaboration with for-profit organizations. (Staff Member)

The larger issue encompassing these challenges is the extent to which the college is a center for change. In the Academic Ethic, Shils (1983) described three views of the function of academics and academic institutions. The first is the discovery and transmission of truth. Second is to educate students for those occupations that demand mastery of a coherent body of organized knowledge, a capacity to assess evidence, and readiness to look at situations afresh. The third view is to be centers of revolutionary change. Shils argues that universities have been the points of origin of profound changes, based on an intellectual foundation, in the world at large. This argument is supported by Pelkan (1992) in his reexamination of the university, he states that "during a period of revolutionary social change such as the present, the university urgently needs to find new ways of protecting freedom of inquiry, particularly when scholars undertake, as they must, to construct and propose models of the good society as alternatives or improvements to the present" (p 43).

The list of relevant innovations introduced in the College of Agriculture in recent years is impressive. These include new advancements in genetically engineered crops, livestock gene mapping, crop disease diagnostics, food irradiation, sustainable agriculture, environmentally friendly furniture, plastic from soybeans, not to mention the advancement of courses dealing with topics such as agriscience and biotechnology and globalization. Earlier a respondent noted that the college is a place where difficult issues are dealt with. The question then becomes, which issues will have priority? To respond to that question, one strategy is to reexamine the roles of the college.
Since most colleges have multiple roles, their definition requires consideration of the relative emphasis placed on each. To return to the roles discussed in section 4.4 — responsibility of the college to society — a set of criteria can be named: research grants, publications and citations, societal well-being, the stimulation of inquiry and reflection, the fostering of intellectual development, or job placement. Assigning weights to the roles or the criteria that described them is an acid test of their relative importance. A respondent elaborates on the dilemma:

As a research institution, the College of Agriculture has as its chief role the creation of new knowledge and, as a result, the dissemination and application to the betterment of both the agriculture industry and society. But if we don't know anything new, then we don't have anything to apply, so within this college, which is a research 1 institution and part of the land grant system, that means research is king. It may well be that the often heard complaint that research is more important at this institution than teaching or outreach is correct and that it should not be a complaint but an affirmation of the proper role of this kind of college as an institution called upon to conduct a major part of society's research. (Professor)

The argument for maintaining the pre-eminence of research in research universities is simple. According to Pelkan (1992), "anyone who would subordinate research to teaching or outreach bears the obligation to specify alternate venues for research and the advancement of knowledge" (p. 56). A larger challenge is the fact that a great deal of agricultural research is now being done outside the university by private for-profit businesses. Shils (1983), states that despite the erosions and arrogations, universities still remain the major centers of learning in their respective communities. The integration of research with engagement activities requires explicit coordination. The college must also decide upon the kinds of steps to be taken institutionally to provide equal opportunity to advance the engagement initiative. These respondents expressed their concern over how the college will change its current structure to promote engagement.

There is a sense among many that the College is promoting production agriculture while many other important, more revolutionary goals could be attempted. This would take a change of vision but would require radical thinking. (Associate Professor)

If engagement (in the broad sense) were to be valued, it would hold a more prominent position in funding or in promotion and tenure decisions. As P&T is heavily based on grant $$ awards then engagement with $$ to ISU appears to me to be the only option. The college has said it will begin to value other areas, such as service and teaching. However, I really question if it will be able to stand behind its promise with the current thinking toward research, research, and research by most on the P&T committee. Until the old ranks change hands, things will most likely stay the same. (Associate Professor)
The variety of challenges confronting the college is great, and attempting to respond to them will require proactive decision-making. Assessment procedures that have originated external to the college provide a certain impetus for responding to the challenge.

4.9.1 The Effect of External Assessment Procedures

Assessment procedures like the Kellogg Commissions Returning to Our Roots series and indicators like the seven-part test of engagement (NASALGC, 1999a) at program and institutional levels have commonly been developed in response to external demands that institutions be accountable or meet certain standards. The positive effect is that institutions are challenged to broaden their perspective, to become aware of their own governance procedures, and to compare themselves with benchmark institutions and practices. The principal weakness of procedures and indicators developed for external audiences is that they provide limited information about ways to improve institutional functioning. To illustrate, of the seven guiding indicators of an engaged institution (responsiveness, respect for partners, academic neutrality, accessibility, integration, coordination, and resource partnerships) described by the Kellogg Commissions (NASULGC, 1999a), not one indicator addressed the need to examine the faculty promotion and tenure guidelines closely to make sure that proper recognition and rewards be developed for faculty contributions towards engagement. These indicators tell us little about steps that could be taken to improve the structural and power elements of an organization that impact how internal agents (faculty, staff and administration) agree to and then advance the initiative. As these respondents stated,

The Kellogg Foundation seems to have a knack for inducing surveyors to focus on FORM rather than content. I believe if we really focused on delivering valuable content, form either comes naturally or it is irrelevant. I have never met a first-class researcher who was not exceptionally engaged, either directly or through colleagues that facilitated for them. (Professor)

The characteristics proposed by the Kellogg group describing "institutional engagement" can mean just about anything to anyone. Engagement would be taken more seriously by faculty if there were either: rewards for doing so, or lack of penalty for taking time away from grant writing and publishing to do engagement work. How come the Kellogg group does not address issues like these? After all those that set forth this command should understand the university policies that hinder things like engagement. (Associate Professor)

Several important statements are made in this quotation — engagement would be taken more seriously by faculty if there were...rewards or lack of penalty and understand the university policies
— that may get at the heart of the challenges of building and maintaining engaged institutions. In order to make decisions that will work in a university, goals and objectives of all levels, including the institution as a whole, must be understood. Cole (1994) points out that the fundamental problem of choice at research universities has more to do with basic ambiguity over governance than with the ability to articulate alternatives. He asks a series of difficult questions: Who has the operational authority to make choices? Who has the power to veto the choices made? What are the processes by which the choices of decision makers are legitimated within the university community? What is the role of faculty, students, administrative leaders, trustees, and alumni in make such choices? These questions highlight the fact that the problem the college has in building and maintaining institutional engagement is not simply a matter of speed but of certain structural features that make reaching conclusions difficult.

Institutional assessment may thus open the door to changes in form and function that lead to engagement. What it does not supply is the analysis and definition of best practice. Moreover, perceptions of institutional efforts to improve quality may differ radically among faculty and disciplines. One respondent explained how there might be differing agendas present, and that it is important for a department to make decisions regarding the focus and commitment to areas that may lead to institutional engagement.

We seem to have separate agendas at the university, college, and department level that go forward simultaneously. Unfortunately, these disconnects have lead to further reductions in resources available to departments. This has made it difficult in many situations to grow a program to be more responsive. Departments must therefore make the hard decisions on focus and commitment to priority areas. (Professor)

Given the increased social and economic dependency on sciences and technology in the knowledge area, rifts are now occurring, when before the ground was merely uneven. Two respondents described this phenomenon.

Most institutions of agricultural education are in some process of reorganization, and the biggest issue that I see in that reorganization process is the pattern of winners and losers that appears to me to be reinforcing past patterns. That ultimately detracts from the process of institutional engagement. An example of the College's reluctance or inability to change is illustrated by unsuccessful attempts in the past to change the name of the College so that its mission on behalf of natural resources would be better recognized and served. Powerful interests, both internal and external have succeeded in blocking this initiative. Natural resources in the state of Iowa are in steady decline and the land grant college has a responsibility to address those problems. Natural resource departments in the college are presently subservient to production agriculture departments and programs. (Professor)
The culture and practices of higher education everywhere has been too greatly influenced by the expert model. For instance, there needs to be more interaction among the departments, institutional components and administrative encouragement to implement suggestions to improve the system. One source of improvement might come from more coordination and cooperation between Iowa State University and the community colleges. This cooperation and cross institutional development should be encouraged to promote seamless progressions to a four-year degree in four years through a combination of community college work and work at a regents school. This would build a truly Iowa educational system for Iowa stakeholders. Similar efforts could be developed in research and extension. (Associate Professor)

These approaches to bridging disciplinary boundaries or communicating across them, rather than being full-blown solutions, are appetite whetters. They illuminate a variety of entry points where institutional engagement can be improved.

4.10 Summary of Findings

This evidence should not lead to the conclusion that certain factors are more important in stimulating academic reform than others, for it seems clear that some are particularly significant. One basic fact is simply the possibility of benefit or reward. University, college, departmental, or even program change is unlikely unless the change appears to lead to greater reward than does the present paradigm. The findings of this study conclude that there is little reason for the college to build institutional engagement programs, activities or initiatives unless the reward system changes to promote the process of building and maintaining engaged institutions. Without potential reward, in brief, change is unlikely.

A second finding is individual influence. It seems clear that to bring about change in the college, as in other organizations, advocacy is imperative to overcome innate institutional inertia. Call it inspiration, leadership, persuasion, or politicking; without it change is unlikely. The advocate not only welds a unity of interest out of the diverse interests of members; they can point to the possible rewards of change — convincing members and patrons of unmet challenges, new opportunities, and desirable responsibilities. All the evidence from history, as well as from the findings of this study provide evidence that institutional change tends to be highest within departments and programs where the most influential members of the institution are seen as forces for change rather than for stability.
Third, the structure of the institution has an effect on the process of change through its openness to influence. Thus the very fact of engagement needs to lead not simply to requiring new responsibilities of faculty, staff and administrators, but to the reform of responsibilities to encompass the engagement initiative into current research, teaching and service functions. Likewise, structural changes in the promotion and tenure system appear to be needed prior to advance the engagement initiative. Faculty, need to be rewarded for being engaged, rather than punished for not performing the traditional research and publishing requirements.

Perhaps the most important finding of all, however, about the factors that are influential in building and maintaining institutional engagement concerns their origins. Sources of educational change are primarily internal, from within the college itself — such as the spontaneous innovations of creative professors and imaginative administrations. Or are they external to the institution? — imposed, of necessity, on reluctant academics by outside forces and groups? This question not only stirs antagonistic arguments but also raises major issues of university governance: issues of academic freedom, faculty prerogatives professional autonomy, policy determination, and institutional accountability. It involves the problem of the best social policy regarding higher education and its control.

As the data from this study revealed, people’s attitudes are influenced by their own position. Professors, daily involved in their own efforts at improvement, naturally tend to see themselves and their colleagues on the faculty as the initiators of change, just as administrators, actively working on some of the same problems, more often see themselves as the key sources of impetus. If state legislators or the members of governing boards or external agents were asked about the sources of change, their reactions would probably display the same tendency. Thus to consider this issue as objectively as possible, it is necessary to examine it beyond one’s own parochial perspective.

From all the evidence and findings of this study, the broad goal of Chapter 5 is to provide conclusions and implications based on the findings of this study. Furthermore, it is hoped that these conclusions and implications will help readers understand the process of building and maintaining engaged institutions and to help colleges of agriculture and other disciplines within higher education respond intelligently and compassionately to the change needed to advance the engagement initiative. Chapter 5 introduces a unique, integrated model for institutional engagement — the Total Institutional Engagement Process (TIEP) — and describes effective diagnostic tools and activities that may be used to initiate, manage, and facilitate institutional engagement successfully.
CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study’s purpose was to investigate the building and maintaining of institutional engagement using the Iowa State University College of Agriculture faculty, staff and administrators as the population. Three objectives were stated in regards to this purpose: 1) to build and apply a conceptual framework based on organizational adaptation theory, literature and the researcher's experience, 2) to empirically describe, by applying the conceptual framework, how colleges of agriculture, build and maintain an engagement agenda; and 3) to seek commonalities across these descriptions that will add in advancing the engagement agenda within other disciplines in higher education. Three research questions were posed in order to meet these objectives:

1. Is there a clear sense of what engagement means among various internal agents?
2. Do College of Agriculture internal agents have a clear commitment to the basic idea of engagement? and
3. Is there strong support from internal agents for infusing engagement into the teaching, research and outreach activities of the College of Agriculture?

These research questions take on a different meaning in the light of each objective. For example, in light of the first objective (building a conceptual framework), the questions can be restated as: "what are detectors, rules and effectors?" Whereas in the context of the second objective (description building) the questions can be restated as: "what are the detectors, rules and effectors of institutional engagement?" Lastly, in the context of the third, meta-description objective, the questions become broad: "what are the detectors, rules and effectors of a College of Agriculture in general?" Figure 5-1 below represents this contextual difference where objective 1’s context is semantic (dealing with meaning), objective 2’s is descriptive, and objective 3’s is analytic (analyzing commonalities across descriptions).

The research questions within the context of each objective form the basis for the chapter's conclusions. The research questions are addressed in each context exploring implications and application of the study and its results.
5.1.1 Conclusion 1: Conceptual Framework

The research questions in light of the first objective (building a conceptual framework) are semantic in nature. That is they seek definition and meaning. What are detectors, rules and effectors? These definitions came in large part from the literature, particularly Holland's performance system (1995) as discussed in Chapter 2. The broad definitions provided as part of Holland's performance system along with the specificity in human action elements added by the Terry's (1993) Human Action Model, were quite successful in eliciting the leadership and management challenges confronting the process building and maintaining institutional engagement. The conceptual framework was sufficient and effective in building empirical descriptions of internal agents (faculty, staff and administrators) toward the "unclear" engagement initiative. There was consensus towards the human action elements of mission, structure and power between the generated descriptions and the elites' views.

In addition the conceptual framework is more precise in detectors than in rules. Detector types were knowable and predicted by the literature before data was gathered (Seven-part test of Engagement). This foreknowledge lead to more precision in data collection and analysis. In the data collection process, respondents were asked to walk through each detector type, whereas they were simply asked to describe their rule processes with little structure or guidance.

This apparent distortion between detectors and rules has implications for the use of complexity research in researching institutional engagement in higher education. Holland's
performance system captures generalities of an institution and the engagement process, but it is a blunt instrument. While the generic performance system still provides more interpretive power than general systems theory (particularly in the addition of resources in a performance system), it is insufficient to capture the complexity of both the College of Agriculture and institutional engagement. Internal agents (faculty, staff and administrators) are important, and provided additional analytic power.

5.1.1.1 Implications of the Conceptual Framework

As stated in Chapter 1, the study of how institutional engagement is built and maintained is at a very early stage. The conceptual framework provides a tool to builders and maintainers of engaged institutions. This tool can be used to both plan services, as well as analyze existing services (as was done in this study). By using a common complexity framework organizations can learn from each other, and begin to add descriptive and analytic power to engagement projects. In colleges of agriculture where there is virtually no control and little knowledge (see Chapter 2’s discussion of knowledge and control) looking at an institution as a self-contained structure makes a great deal of sense. Understanding structures in place to detect and adapt to change is essential. With the conceptual framework organizations can be made more aware of how they gather information, react to input and how these mechanisms and processes relate to other engagement activities.

5.1.1.2 Revised Conceptual Framework

Because the conceptual framework had yet to be tested in relation to the process of building and maintaining organizational change it would have been difficult to revise the framework substantially without potentially biasing it towards a single engagement process. Further, the conceptual framework was successful in eliciting descriptions for this study so the general conceptual framework functions well with no revision. However, the conceptual framework can be "tuned" looking closer at the process of building and maintaining institutional engagement. These refinements drawn from the meta-descriptions (discussed in Chapter 4) are:

- A need to develop an engagement leadership team.
- A systems approach to institutional engagement
- A need for continues engagement research.
- Reflecting on the level and degree of change required.
• Identifying the sources of demand for change and determining their power.
• Examining the organization's culture.
• Evaluating the level of choice involved for internal agents.
• A need for special attention to the human side of institutional change.

This "tuned" conceptual framework (see Figure 5-2) adds a level of precision concerning the process of creating a capacity for institutional engagement while addressing faculty, staff, and administrator issues to facilitate needed institutional change. The Institutional Engagement Capacity Building Process (IECBP) offers a logical approach for dealing with institutional change for building and maintaining institutional engagement by addressing the learning needs of both individuals and groups in the context of an "open and complex" institution. It can be applied to any higher education institutional change effort — a large-scale university change involving the entire system, or a change applied by just one department chair in his or her own department. Although the intensity of effort involved, the diagnostic tools, surveys, and instruments used, the activities used, and the resources applied differ from case to case, the logic of this process still remains valid.

This adapted conceptual framework is a holistic approach that enhances the institution's ability to learn and adapt to a variety of environmental jolts and opportunities:

• Optimizes an institution's capacity to allow for the exchange of human energy,
• Minimizes the constraints created by the environment, structure, processes, and policies,
• Is open and communicative both within itself and with other systems in its environments.

The Institutional Engagement Capacity Building Process (IECBP) — the researchers' new conceptual framework for addressing institutional change — is presented graphically in Figure 5-2. The center portion of the model illustrates the major components of the IECBP. The outer ring and its inward-pointing arrows represent the ongoing probing and reflecting that should take place through continuous engagement action research. Engagement action research is a way of improving the process, based on findings obtained from data gathered while the process of building and maintaining institutional engagement is still going on.

While a linear format is used to describe the new conceptual framework, actual application of the IECBP need not be linear at all. In fact, in open and complex institutions, the change process is much more organic and fluid (Holland, 1995).
Monitor with Engagement Action Research

Form ELT and EART*

Evaluate the need for change to achieve institutional engagement

Define the Future State

Transition

Describe the Present State

Assess the present in terms of the future

Plan for change and institutional engagement

Intervene at three levels

Individually

Department

College/University

Manage the institutional engagement transition

Stabilize the engagement and change process

Institutional Engagement Capacity Building Process

* ELT = Engagement Leadership Team
EART = Engagement Action Research Team

Figure 5-2: Institutional Engagement Capacity Building Process
5.1.1.3 Major Components of the New Conceptual Framework (IECBP)

Several questions continued to arise from internal agents regarding the engagement process. These questions: 1) "Who is to lead the institutional engagement process? and 2) "Who is to get the ball rolling to advance the engagement initiative?" Actually, it was apparent that the internal agents contend that at any one moment leaders might be found anywhere within the institution, but for a major change, two types of leaders are needed. In the IECBP conceptual framework, these teams are called the Engagement Leadership Team (ELT) and the Engagement Action Research Team (EART).

The ELT, in most cases, should be comprised of various internal agents, with the top administrators sponsoring and supporting the team efforts. The ELT should sponsor the engagement efforts and provide the vision for the future. The EART, on the other hand, monitors the engagement process and helps the department/college/university match results to intentions. In a very small department, the ELT and EART may be one and the same. But typically, in larger institutional instances, members of the ELT may be involved in so many of their own efforts that their strongest contribution is providing strategic direction — establishing vision, mission, clear goals, and shared values for the institution.

The second phase of the IECBP conceptual framework involves seven steps: 1) defining the future state, 2) describing the present state, 3) assessing the present in terms of the future, 4) planning institutional change and engagement, 5) intervention, 6) managing the institutional engagement transition, and 7) stabilizing the engagement and change process. The primary purpose of these stages is to establish both need and readiness for institutional engagement and change, and it is usually performed by the ELT.

The first stage defining the future state involves visualizing the institutions desired future state — describing how things will look when the engagement process has been effectively introduced. Again, this role should be performed by the ELT. The purpose of this stage is to create an enabling vision and mission for the institution/department, an ideal to which people can become committed. At this state the ELT ensures that the institution/department's vision and mission, and the administrative philosophies that underlie its culture and values, are aligned. Institutional structures to support the engagement process should also be examined.

At the second stage the ELT should look at the institutions present state of institutional engagement. The ELT should scrutinize the present situation in the context of the existing culture, values, and operating principles. This helps identify potential problems that might occur during the implementation of institutional engagement. Basically, this stage is the equivalent of the situational
analysis conducted during strategic planning. At a minimum, the ELT needs to be aware of the strengths, weaknesses, opportunities, and threats inherent in the current situation and how they impact the engagement process.

Once the future and present states have been adequately described, stage three is able to begin using the future and present state understanding as a means for assessing the differences between what is and what will be. Contrasting the present with the future generates energy for learning and growth, and lays the groundwork for decision-making and engagement action planning. It also helps leaders more adequately communicate about and guide the engagement efforts. Stage three creates the fundamental conditions for a process that is “pulled through” instead of “pushed through,” a process in which leaders can create real meaning around the future vision, mission, values, and key goals.

Stage four, the planning phase provides the detailed blueprint for guiding institutional engagement and evaluating performance. It involves determining overall engagement goals, selecting transition strategies, dealing with resistance, examining the forces that drive or restrain the engagement process, securing commitment to the engagement effort, and determining individual implementation responsibilities. Frequently, this may be the point where the EARTs become more actively involved.

Every major engagement component may involve its own version of an ELT and multiple EARTs. Both types of teams work participatively during this planning phase with the people who must make the engagement process happen.

Stage five consists of intervention at three levels within the institution — individual, group and college/university — and is really the heart of the IECBP conceptual framework.

Intervening at the individual level. No matter how good the basic plan, if the leaders who advocate the engagement initiative fail to work with the individual internal agents that the engagement process will involve, they will not fully accept the engagement agenda or let it affect their performance. Nothing will happen except more of the same. At the individual internal agent level, an examination of people’s stages of concern, motivation patterns, goal directedness, and self-management capacity should be assessed. Using diagnostic tools, like the analytical tool, seek to identify any feelings that may stand in the way of the engagement process on six levels of human action: 1) existence, 2) resources, 3) structure, 4) power, 5) mission, and 6) meaning.

Intervening at the group level. According to Senge (1990) both individual and group potential develop by establishing a clear purpose and shared values, which can be optimized through a group process comprised of five steps:
1. Developing mutual trust
2. Recognizing and accepting individual differences
3. Giving and receiving feedback
4. Solving problems
5. Letting go of the past

Senge (1990) further contends that when a group has identified and shared purpose and shared values, it has the potential for taking action.

Intervening at the College/University Level. At this point, the ELT needs to explore the interrelationships among individual, group, and institutional levels, and between each of those levels and the various internal and external environments that impact the process of building and maintaining institutional engagement.

Once the engagement process has gained momentum, the sixth stage takes over in order to keep the process rolling. This requires a dual focus, on the institution/department as a whole, and the people who are involved with the engagement process. The ELT must maintain awareness of those people as individuals, as groups, and as internal and external networks. In this phase performance standards are addressed and conditions for optimal success identified. The ELT should analyze how much the engagement process or innovation is meeting the stakeholder's needs and develop interventions related to the level of stakeholder needs. This process is organic, and multiple and mutual causality now come into play. The tension between the vision of institutional engagement and the actual state should generate the energy needed to advance the process of building and maintaining institutional engagement.

The seventh stage is to avoid reverting to the institutions/departments former state. In order to prevent this from happening the ELT must assist in re-stabilizing the institution or reestablish a new equilibrium. The engagement process may then become a routine part of the institution/department. The ELT should continue to scan the environment, looking for constraints that might hamper the engagement efforts, as well as find ways to remove or reduce any external forces. The stability of this new equilibrium is a direct reflection of the overall success of learning at the individual, group, and college/university levels and leads to what the Kellogg Commission describes as an "Engaged Institution."

While monitoring the IECBP conceptual framework is described last, it is not the final step; rather, it is an ongoing learning process. According to Terry (1993) all human beings need to reflect on their actions if they are to learn from them. To monitor the engagement process, the new system
and its renewed internal agents should employ the techniques of action research or learning organization and emerge as an intelligent, self-organizing, organic whole.

Action research and learning communities provide a framework for broadening the basis of learning and participation, hence strengthening commitment to the institution's engagement goals (Senge, 1990; Weisbord & Janoff, 1995). In the action research process, data are collected and fed back for problem analysis and goal setting, reflection and evolution. According to Weisbord and Janoff (1995) the basic steps in action research are:

1. Data collection and analysis
2. Shared feedback and data interpretation
3. Participative action planning and implementation
4. Evaluation

The IECBP conceptual framework integrates several proven theories from well-known, respected authorities into one practical model. In particular, eight major models are incorporated based on the internal agent's meta-description towards institutional engagement. The eight theories are: 1) the Complex Adaptive Systems Model (Holland, 1995), 2) the Open Organization Model (Mink, Shultz, & Mink, 1979), 3) the Concerns-Based Adaptation Model (Hall, Wallace, & Dossett, 1973), 4) the Group Development Model (Mink, Mink, & Owen, 1987), 5) the Linking Pin Model (Likert, 1961), 6) the Organizational Transition Model (Beckhard & Harris, 1987), 7) the Future Research Model (Weisbord & Janoff, 1995), and 8) the Learning Organization Model (Senge, 1990).

5.1.2 Conclusion 2: Description

The second objective of this study was: to use the conceptual framework to empirically describe, how college's of agriculture, build and maintain an engagement agenda. In light of this objective, the research questions take on a specific descriptive function. That is, they ask, "What are the detectors, rules and effectors of a specific institution?" These research questions studied through the methodology outlined in Chapter 3 lead directly to the 1) criterion of engagement, 2) frameworks for improving institutional engagement, 3) engagement benchmarks, and 4) institutional practices that focus on engagement in Chapter 4, and the new IECBP conceptual framework. Conclusions on this objective fit into two basic areas: those related to the method of generating descriptions (answering the research questions for institutional engagement) and the findings related to the use of the Internet and email in data collection.
5.1.2.1 Methodological Conclusions and Implications

Unlike traditional grounded theory studies where introduction, literature and method are small parts of the study, and results and conclusions are large sections, this study is just the reverse. A great deal of time was spent in building the conceptual framework and positioning the study, followed by concise, almost terse results. This relates to the basic nature of the study that was to build a sophisticated lens to focus on a complex subject at a given point in time. For that point in time, the complex item becomes simple; it is the dynamic nature of the agents over time that makes it complex. In such a case it is the instrument used to reduce complexity that needs explanation and grounding, while the results are simplified. It is like attempting to study a butterfly: observed in nature the insect is fast moving and hard to define. However, pin the butterfly to a board and it is a simple matter to examine it.

5.1.2.2 Internet and Email Conclusions and Implications

Another finding of the study relates to the extensive use of the Internet to gather and report data. Of particular note was the use of Internet and email platforms to collect data from respondents. The use of the Internet and email had several advantages. First, there was an instantaneous transcript of the data collected. Second, this transcript also included nearly the entire respondents data. With the exception of time and environmental data, all aspects of the respondent’s insights toward institutional engagement were captured. There were no unspoken cues or garbled speech. However, the Internet and email provided some unexpected results. The transcripts were very terse. Seven open-ended questions became only forty-nine pages of transcripts, and did not provide the opportunity for further explanation of comments. Possibly the text-based environment gave respondents more time to compose and answer. Perhaps respondents were more concise to save the effort of typing. Maybe the respondents are overwhelmed with Internet activities and emails. The researcher offers no explanation for this other than to point out that the data gathered was sufficiently rich to create Chapter 4’s descriptions.

5.1.3 Conclusion 3: Meta-Description

When interpreting the research questions in the context of the third objective of the study, “seeking commonalties among the descriptions,” they become more generalized and became “what
are the detectors, rules and effectors of a College of Agriculture in general?" The answer to this generalized question was presented in Chapter 4 as the frameworks for improving institutional engagement and institutional practices that focus on engagement. While the frameworks and institutional practices are broad, they are significant in two ways: they demonstrate a level of convergence in the complex environment of higher education, and they have utility to builders and maintainers of institutional engagement.

At the outset of this research there were three broad possible outcomes from the study’s third objective:

1. generation of a single meta-description: a single description accounting for the specifics of all respondents studied,

2. generation of several meta-descriptions: a series of two or three descriptions accounting for all the respondents studied, but segmented by some variable (such as department or stakeholder domain), or

3. an inability to create any meta-description: no useful level of abstraction could describe all respondents or the meta-description was the framework, not exposed by it, imposed the conceptual framework itself, which indicated a structure.

In complexity terms, each of these results would have different implications. For example, an inability to generate any generalizations would lead the researcher to question whether the College of Agriculture was indeed a complex system at all, or rather, a chaotic one with no regularity. Being able to build focused meta-descriptions among varied respondents as was done in this study implies the utility of the complexity approach. With this approach aggregation of engagement descriptions on a wider scale is possible and ultimately a comprehensive institutional engagement model for transforming institutions of higher education can be used to assist in building and maintaining institutional engagement.

The utility of the descriptions are that they work with both single activities and large departmental and college wide engagement activities. It is a simple set of rules that covers a broad set of cases. It acts as a simple rule from which complex systems can be derived. While broad, the commonalities identified are more specific than the model of detectors, rules and effectors used to gather the data. The descriptions can also be used as mechanisms for planning institutional engagement. For example a series of planning questions can be drawn from the meta-descriptions:

- What are the rules for achieving institutional engagement?
- Will faculty rewards be developed to reflect the engagement initiative?
- How can a pool of possible engaged internal agents be organized?
• Will there be a database of engagement activities, people and organizations?
• What policies will there be to help internal agents with the engagement process?
• What engagement resources will be made available to internal agents?
• How will trends and engagement activities be tracked?

As will be shown in the discussion of future research, these meta-descriptions can be invaluable in building and maintaining institutional engagement.

5.2 Limitations of Study and Findings

This section discusses limitations of the study as well as a discussion of transferability of the study’s findings to other institutions. The limitations of the study are:

1. the absence of dynamic aspects of building and maintaining institutional engagement activities in general, and exemplary engagement activities specifically,
2. an inability to determine effectiveness and efficiency in the building and maintaining process, and
3. the "surface" nature of the descriptions generated.

These three limitations are not meant to be exhaustive, but rather serve as cautions in the use of the study’s results. They are detailed below.

5.2.1 Dynamism in Building and Maintaining Institutional Engagement

Complex adaptive systems are dynamic (Holland, 1995). They shift and change over time. Rules, detectors and effectors are all transformed by the changing landscape within which they exist. From the outset of the study the researcher made clear that not all of complexity research was utilized within this study. The performance system of an agent is the static portion of that agent at any given moment in time. Said performance system is what was captured during this research. What is missing in the engagement descriptions is the accounting for change mechanisms of the institution. The question of how engagement activities evolve in the face of a shifting landscape remains largely unanswered. The criterion, frameworks, benchmarks, and institutional practices that form the heart of Chapter 4 tell no history, they do not show what has not worked in the process of transforming the institution to meet external demands. Rather, these descriptions are a picture of a moment in time. Only with follow-up studies looking at engagement longitudinally can the evolving nature of institutional engagement and associated mechanisms be exposed.
5.2.2 Efficiency and Effectiveness

The internal agents population (faculty, staff and administration) examined in this study is representative. That was operationalized as the consensus opinion of an expert panel that these agents were worthy of data collection. They have good reputations and recognitions. However, these respondents were not chosen because they most effectively demonstrated exceptional engagement characteristics or created the most engaging teaching, research or service. Effectiveness and efficiency of the internal agents with regards to institutional engagement was largely unknown to the expert panel at the time of selection.

However, part of the utility in complexity research is that of punctuated evolution. That is to say, that complexity research holds that the structure of these services has evolved in response to their environments. Complexity research would hold that uninformed respondents would either change in response to external stimuli (through their detectors) or eventually cease participation. With this in mind, while the researcher cannot state that a given process is "best," "good," "efficient," or "effective," the researcher can state that it is sufficient for potential consideration towards building and maintaining engaged institutions.

5.2.3 Surface Descriptions

While each elite was given ample opportunity to add detail and challenge descriptions, the researcher feels what was captured was the "norm." That is to say that the majority of questions are processed according to the detectors, but the exceptions are not captured. This sense comes from both the researcher's experience and discussions with various internal agents and members of the expert panel. Another methodology, such as participant observation and individual face-to-face interviews, might have better elicited the exceptions, and undocumented processes. Such a method would also capture different perspectives on institutional engagement from various internal agents. In the other situations, however, additional staff internal agent perspectives might add another level of detail. These limitations are also discussed in Chapter 1's delimiters.

5.3 Transferability of Descriptions and Meta-Description

Marshall and Rossman (1995), discuss transferability as a construct that both relates to the trustworthiness of a study and in applicability of a study's findings to other situations.
The second construct Lincoln and Guba propose is transferability, in which the burden of demonstrating the applicability of one set of findings to another context rests more with the investigator who would make that transfer than with the original investigator. That is, the first decision span allows the researcher to generalize the findings about a particular sample to the population from which that sample was drawn (assuming adequate population specification and random selection of the sample). The second decision span occurs when an investigator wants to apply the findings about the population of interest to a second population believed or presumed sufficiently similar to the first to warrant that application. This second decision span entails the judgment about the relevancy of the first study to the second setting."

(Marshall & Rossman 1995, p.142-3)

While there was no use of random selection in sampling and therefore no possibility of generalization, there can be some indication of "presumed" populations to which these findings would relate.

First, the researcher assumes that the findings are most transferable to other colleges of agriculture. The descriptions and meta-descriptions in this study describe the ideas of 232 internal agents of the College of Agriculture. These 232 (40 from the open-ended survey plus, 192 from the analytical tool) internal agents represent a significant portion of the 410 internal agents (57%) identified within the College of Agriculture discussed in Chapter 3. The internal agents investigated in this study were selected to be "representative," that is, symbolic of all internal agents. The sample population itself covered the range of departments and agent types, including faculty, staff, and administration from diverse departments as agronomy, economics, sociology, and agricultural education to name a few. Therefore colleges of agriculture should be able to utilize the meta-description, and the IECBP conceptual framework with little translation or adaptation.

Second, transfer to other colleges (i.e., engineering, business, liberal arts) is also warranted. While the population of internal agents was only from the College of Agriculture, internal agents from other colleges within the institution are faced with similar missions: structures and power functions.

Beyond Iowa State University itself, there is much less confidence in the ability to transfer specific findings. However, the original conceptual framework and IECBP conceptual framework (discussed above), have the possibility of being transferable to any higher education research study. It was built as a generalized model of institutional engagement and founded on the theoretical framework of eight other tested models.
5.4 Implications and Understanding the Engagement Process

We live in a world that is becoming increasingly complex. Unfortunately, our style of thinking rarely matches this complexity. We often end up persuading ourselves that everything is simpler than it actually is, dealing with complexity by presuming that it does not really exist. This is very evident in the way fad and fashion dominates approaches to higher education reform, and interest in one type or set of techniques quickly giving away to another. Institutions of higher education are generally complex, ambiguous and paradoxical. The real challenge is to learn to deal with this complexity. Utilizing the Institutional Engagement Capacity Building Process proposed earlier may be one way of systematically working within the complexity of higher education.

In an increasing chaotic world, those who are concerned with how higher education functions need a new paradigm. We need to acknowledge that our institutions are human systems consisting of many interrelated parts. And we need to acknowledge that every individual matters and that what each individual does affects everybody else. Reflecting on and learning from its actions — even as it is taking them, are critical to an institution’s success — indeed to its very survival.

In today’s competitive environment, learning about, planning for, and implementing major institutional change must be considered the highest priority for an institution like the College of Agriculture long-term survival and prosperity. Today’s College of Agriculture cope with challenges so complex that even a few years ago they would have been unimaginable. Now, at the beginning of the twenty-first century, the one thing institutional stakeholders can be sure of is that the challenges will become even more complex in the days to come.

To help faculty, staff and administrators of universities and colleges sort through this tangle of problems and challenges, first the focus needs to be on two overriding forces that affect virtually all institutions of higher education: increased competition and increased stakeholder demands for quality. Either one alone can cause tremendous changes in an institution; when the coexist — as they usually do — their combined impact on a college, department or program increases substantially.

As the Kellogg Commission (NASULGC, 1999a) has concluded a negative gap exists between institutional performance and stakeholder expectations: external stakeholders expect more in the way of high-quality programming and needs assessments than universities and colleges often deliver. This has been called by many in the accounting field as the expectation-performance gap (Porter, 1991). And it has a demonstrable effect on the bottom line. Research tells us that satisfied customers usually tell only two or three other people about a positive experience. The average dissatisfied customer tells at least nine others.
It is not hard to see the value of closing the expectation-performance gap. But what happens when a jolt occurs in the environment that changes stakeholder expectations? The performance of the institution must also change; otherwise those new expectations will probably go unmet, resulting in lost opportunities.

Faculty, staff and administrators within higher education institutions need to be attuned to emerging challenges as environmental jobs occur; they need to get both internal and external stakeholders changing perspectives. This means they must be open to new information and listen to their external agents — really listen. It means, too, that they must respond to what they hear. They need to act — forcefully and solidly — by developing world-class competitive programs and services. To do so, faculty, staff and administrators must foster a climate of adaptability. Everyone, at all levels of the institution, must be ready to make the necessary changes.

In general, however, we can see through historical findings that higher education has attempted to respond to the twin forces of external competition and increased stakeholder demand for quality. As Chapter 2 presented, over the past ten years, nearly every university, college or department has introduced at least one new philosophy, new approach, or new program to keep up with challenges presented by competition or external needs. These efforts have ranged from substantial to mild, yet they all require an extended period of time to implement.

While these new programs have taken many forms, they all have one thing in common, they represent some degree of change — sometimes very fundamental change — in the way the university, college or department does business. They have something else in common as well, a very high rate of failure.

Why do so many of these initiatives fail? Why, when so much effort, money, and good intentions are invested, do they fall short of the mark? The answer, as you might expect, has several components.

As Weber (1947) concludes, one is human nature. Weber (1947) contends that paradoxically, the most competent, most successful people and institutions typically have the greatest difficulty changing. Often, their very success works against them, for it interferes with identifying the need to change (Weber, 1947). Or as Bolman and Deal (1997) conclude, most institutions decline, in fact, following periods of sustained success.

But even when circumstances propel universities and colleges toward a change in programming or structure, few of these changes are wholly successful at it. This researcher believes this is because they overlook two crucial parts of the process:
1. fully addressing the concerns of individuals within the institution (faculty, staff and administrators; and
2. considering the entire system as an integrated whole.

5.4.1 People Come First

Healthy universities and colleges need healthy people. It is as simple, and as complex, as that. If institutional engagement is to take root and blossom within the College of Agriculture there needs to be an institutional climate that fosters and nurtures people. Without such nurturing, the engagement initiative cannot be successful. Good working engagement teams cannot be built on weak people. We cannot expect people who are fearful to take on sweeping changes.

Addressing the people side must be the number-one priority. Institutions must select and develop good people, and most important they must treat and reward them well. Otherwise, the institution cannot hope to provide a healthy environment that cultivates social engagement.

5.4.2 The Whole Institution

An institution working on institutional engagement activities needs to focus on its people, one individual at a time, while also keeping the overall picture clearly in mind. As Holland (1995) contends, organizations by their very nature are complex. It is a dynamic process, involving relationships between individuals and between groups of individuals. Often these relationships have been in place for years, and they are intertwined and interconnected in myriad ways (Senge, 1990).

Any single change in the existing system affects all parts of the system; a complex change, such as a change in the promotion and tenure procedures may be needed to meet the engagement initiative, has virtually unlimited ramifications. Any initiative that seeks to introduce change into an institution of higher education will fail if it is not grounded in this system wide view of the institution.

5.5 Strategic Planning for Institutional Engagement

The changing conditions of higher education, and the increasingly complex expectations society holds for universities and colleges, demand that each program and department develop specific strategic directions that focus its efforts. Even long-time traditional taxonomies of higher education, such as the Carnegie Classification System, are evolving as a reflection of increased
diversity among campus missions and greater complexity of institutional roles. While mission statements and strategic plans were once viewed by many as so much public relations puffery, there are now many examples of institutions that have used effective strategic plans and well-articulated missions as active guides for institutional transformation and increased accountability.

Increased attention to the potential role of institutional engagement is often the trigger for discussions about the specificity of the mission, and the clarity of strategic directions. For institutions that have been caught between the images of a research university and a teaching institution, defining and implementing the role of institutional engagement may provide clarity to both research and teaching, and may result in a more integrated view of faculty work, student learning and the campus/community relationships (Boyer, 1990). There is no doubt that institutional engagement is an important component of the scholarly work of any institution, and to fulfill this newly-understood role requires significant changes in structures, plans and attitudes.

All organizations, roles, and functions change over time and context. If service once meant removal from society, then this researcher along with scores of other researchers and external stakeholders argues that today such service by the faculty might be defined more as direct action, communication and involvement with society. Rather than assume the institution knows what is good for its external stakeholders, organizations like the Kellogg Foundation maintains that higher education need more engagement with society to determine needs, actions and directions.

Institutional engagement is not conducted in isolation from teaching and research. Effective practice of engagement should draw on institutional academic strengths, and depend on integration with the institution’s goals for teaching, learning and research. Institutional engagement requires investments in infrastructure, faculty development and organizational change. Therefore, engagement requires strategic planning to ensure success and sustainability.

Every department and program within the college needs to make its own systematic decisions about the degree to which institutional engagement is appropriate and relevant to their department mission and strategic directions, as well as the colleges mission and strategic plans.

5.6 Recommendations

Even if a department, program or the college does not yet have a clear consensus on its mission towards institutional engagement, there is much that can be done to promote campus discussion about the role of institutional engagement and to promote engagement activities.
It is recommended that a multi-dimensional approach is best because different members of the internal agents will have different motivations or concerns about engagement or will respond to different kinds of incentives and rewards.

### 5.6.1 Motivations

In promoting internal agents (faculty, staff and administrators) attention to institutional engagement, it helps to understand what motivates the internal agents, faculty in particular, to involve themselves in scholarly work related to institutional engagement.

- **Personal values** – This is the right thing to do….it connects the internal agents personal and professional values.
- **Disciplinary Culture/Standards** – Engagement makes sense for the internal agents discipline (especially faculty).
- **Incentives** – I’m interested, but I need assistance, support and/or time.
- **Evidence** – I want to be convinced that this will have positive impacts on student learning, on research productivity, or on community conditions.
- **Rewards** – This work is valid within formal and informal reward systems
- **Reputation/Prestige** – This work can bring respect to the individual, department or campus through new grants, a positive public image, donor support, and/or peer recognition.

### 5.6.2 Recognition

Every department has internal agents and programs that are already engaged in extending the university into the community; however, the level of awareness about these activities varies. As a department explores enhancement or expansion of engagement activities, it is recommended that a good first step is to recognize, highlight and reward the work that is already happening.

- Invite engaged faculty, staff or administrators to present seminars and workshops to their colleagues.
- Support internal agents attendance at regional and national conferences about engagement.
- Provide stipends to support new or expanded projects.
- Highlight engaged internal agents and their projects in college, department or university publications.
• Establish an annual award for faculty, staff and administrator achievements in institutional engagement.

5.6.3 Promote Learning About Engagement

Change in departments and the college as a whole could be enhanced by a focusing on learning. Those not yet committed to institutional engagement can learn much from the literature, research and examples of good practice.

• Distribute literature on the role of institutional engagement.
• Invite scholars of engagement to speak at department, college or university events.
• Fund opportunities for faculty, staff and administrative leaders to attend national conferences that will include attention to institutional engagement.
• Support faculty, staff and administrator visits to other campuses that have made progress or been recognized for institutional engagement.
• Create an Engagement Leadership Team to plan development activities, events, and discussions.

5.6.4 Walk the Talk – Demonstrate the Importance of Engagement

• Add language regarding institutional engagement to job announcements and to hiring criteria.
• Highlight support for institutional engagement in budget priorities and allocations
• Ask departments to report regularly on engagement activities and publish the reports.
• Collect data on institutional engagement outcomes and share the analysis.
• Promote faculty, staff and administrator involvement in preparing grant proposals for extramural funding for institutional engagement.
• Make support for institutional engagement a priority in donor cultivation/gift solicitation.
5.6.5 Promote Discussion

- Sponsor events, symposia, forums on democracy, public culture, citizenship, or on community-based issues.
- Bring community representatives into department, college and/or university events and discussions.
- Expand the role of the external advisory groups, asking for greater participation and program development.
- Challenge faculty to explore the role of civic learning in the curriculum, through service-learning activities.
- Fund faculty to conduct research and to collect data on community needs, assets, and conditions.
- Ask for departments to produce strategic plans regarding institutional engagement. There is a need for greater discussion that would guide any department’s exploration of engagement?
- Convene existing research/service centers and institutes and promote integrated planning and collaboration.

5.6.6 Provide Incentives

As noted in Chapter 4, some of the greatest barriers to expanded department and college involvement into institutional engagement activities are opportunity, time, resources, assistance, and training.

- Create campus infrastructure to support faculty involvement in engagement activities.
- Provide small, competitive internal grants to support faculty experimentation with institutional engagement. Involve faculty in making award decisions.
- Seek major grants/gifts for funding institutional engagement activities.
- Add engagement goals to criteria for sabbaticals, summer study support, etc.
- Create exchange opportunities between the campus and external organizations.
- Establish faculty fellowships or graduate assistantships/fellowships around engagement goals.
5.7 Future Research

The purpose of this research as stated in Chapter 1 was as a starting point for a larger investigation into the building and maintaining of engaged institutions. The starting point is now done, and future research to continue this larger investigation must be outlined. Table 5-1 outlines future areas of investigation based on the conclusions in this chapter.

These research areas delineate direct scholarly follow-ups to the current study. They would both deepen the current understanding of the College of Agriculture structural impact and expand the understanding of institutional engagement in general. Each area is explored briefly below.

5.7.1 Future Research Related to the Conceptual Framework

As was discussed in the previous conclusions the conceptual framework was successful, but could be tuned for different situations. Future research related to the framework would have two threads: refining the framework itself, and applying the framework to other colleges and its internal agents.

<table>
<thead>
<tr>
<th>Related To</th>
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<td>Conclusion 1:</td>
<td>Conceptual framework in Other Discipline Settings</td>
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<td>Conceptual Framework</td>
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<td>Conclusion 3:</td>
<td>Enrichment of Meta-Description with Additional Agents</td>
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5.7.2 **Refining the Framework**

The framework, while currently effective, lacks dynamism and equal resolution in the investigation of the process of building and maintaining institutional engagement. Two proposed studies could address these problems.

First, a study directed at developing the dynamic nature of the conceptual framework. As stated in Chapter 2, there are large parts of complexity research not utilized in this study. Future research could look at the dynamic nature of colleges of agriculture (or higher education in general) using the dynamic aspects of complexity research. How do these organizations change their performance systems over time? Internal models and credit assignment algorithms (Holland, 1995) can serve as the first step in attempting to incorporate dynamism into the conceptual framework. Once the dynamic nature of College of Agriculture is explored the Capacity Building Model for Institutional Engagement as proposed earlier can be tested.

A second study would address the process of balancing the conceptual framework. Another refinement needed in the conceptual framework is leveling the degree of specificity and precision among detectors, rules, resources, and effectors. Detectors are well defined as a result of this research and the literature leading to this work. However, effectors, resources and rules remain elusive. Certainly the meta-description built in Chapter 4 is helpful for Colleges of Agriculture and internal agents. Yet there needs to be a considerable amount of work done in refining the concepts of effectors, resources and rules, or it will remain an ad hoc, case-by-case determination and will be difficult to generalize or compare across domains.

5.7.3 **Applying the Framework to Different Settings**

One of the strengths of using complexity research as a base for the conceptual framework was the ability to look at institutional engagement regardless of context. This allows for a cross-context review and comparison of internal agents and engagement activities. In order to truly realize this analytic power the framework must be applied to multiple settings.

First, a study could be developed and conducted to evaluate the conceptual framework in other college settings. It would be interesting to see the comparison of colleges regarding the process of building and maintaining institutional engagement.

Second, as state and land grant institutions wrestle with institutional engagement, they face a hanging society. Serious questions exist about the role of the institutions as being civically engaged,
and complete in a world with diverse needs. Serious questions abound as colleges and universities face local support and global reach.

5.7.4 Future Research Related to Descriptions

There are three studies needed to enhance both the existing engagement descriptions and future descriptions.

First, a longitudinal study of colleges of agriculture and institutional engagement needs to be developed and conducted. Future research related to the descriptions created by this study includes the creation of new descriptions sometime in the future to gain a more longitudinal view of institutional engagement. This work is needed to discover the dynamic mechanisms discussed in Conclusion 1 above. Another study might take a more in-depth look at a single internal agent (i.e. staff). Such a study could find if these descriptions did indeed miss a level of detail, or if there is significant variance between the view of one internal agent and another.

Added depth and longitudinal views would aid in both the discovery of the dynamic aspects of building and maintaining institutional engagement as well as enhancing understanding of higher education processes for transforming in general.

Second, future study on the development of efficiency and effectiveness benchmarks for institutional engagement needs to be conducted. As was stated in Chapter 5's discussion of limitations, this study did not develop or utilize existing metrics of efficiency and effectiveness. While complexity research implies efficiency and effectiveness by evolution, this does not exclude the development of benchmarking standards that could be applied to the new and existing world of institutional engagement.

Benchmarking is essential in the evolving process of building and maintaining of civic and institutional engagement in general. As external stakeholders, including the federal government, begin large-scale investment into institutional engagement activities they will begin to look for measures to demonstrate the value of such activities. In cases like the federal government where effective and efficient implementation of activities is not only important in return on investment, but legally actionable, return on investment metrics will determine the extent of implementation of engagement activities.

Third, there is a need to develop a streamlined engagement process for colleges of agriculture and higher education. The more structured IECBP conceptual framework outlined above needs to be tested for application and reliability.
5.7.5 Future Research Related to Meta-Description

Researching institutional engagement is a question of looking at the way in which the existence and (potential) resolution of conflict is manifested in events of organizational change, and to examine how learning in legitimated. This involves examining the diversity and plurality of views of the internal agents in the institution – research can give voice to these views. As a start to developing such an approach we can use Hazen's (1993) description of the "polyphonic organization." Hazen states that organizations (College of Agriculture) can be understood as socially constructed verbal systems – stories, discourses and texts. Each member of the organization has a voice in the narrative – some voices however are loud, articulate and powerful, while others are silent or unheard. The meta-description developed in this study captures a limited number of internal agents (primarily faculty). In order to ensure that all agents within the institutions are heard, future research is needed, specifically looking more into various staff groupings as well as the extension staff, regarding the role that they will play in building and maintaining institutional engagement.

5.7.6 Summary of Future Research

There are many avenues of research that can follow this study. Several of the threads interact and complement one another. For example the creation of the streamlined IECBP conceptual framework could lead to greater understanding of process of building and maintaining institutional engagement in general. Future research will either add to a deeper understanding of institutional engagement, or the proposed IECBP conceptual framework. One set of studies will require a greater understanding of the College of Agriculture internal agents, while another set of studies will require a more general approach to building and maintaining institutional engagement. All of these studies will further the understanding of complexity research and its impacts on higher education and the engagement initiative.

5.8 Achieving Institutional Engagement the Role of Agricultural Education

As illustrated by the findings of this study a major obstacle to the effective implementation of the engagement initiative is internal stakeholder resistance to change. Such resistance is not a recent phenomenon, nor is it confined to the workplace (Hurst, 1991). It is not exclusive to any particular setting and is likely to be evident amongst individuals or groups within any social system because
change will require "...new habit patterns or sacrifices" (Davis, 1977, p. 163). Subsequent research by Fullan and Steigelbauer (1991), Kotter and Schlesinger (1979), and Lovat and Smith (1995) reinforces the continued existence of resistance to change across a range of settings.

Further analysis of the findings revealed an extensive list of factors which influences internal stakeholder attitudes and behaviors in times of substantial institutional change, and which were likely to have impeded their capacity for transformational learning. These factors are described below under four headings, 1) comprising management and planning; 2) the engagement message; 3) internal stakeholder relations issues; and 4) variables. It was found that internal stakeholder resistance stemmed from a combination of these factors rather than any single factor in isolation. The diversity and potential combination of these factors accentuate the complexity of issues which may contribute to internal stakeholder resistance to institutional engagement, and which the Department of Agricultural Education and Studies can assist in carefully considering when planning for institutional engagement in the College of Agriculture.

5.8.1 Planning and Management

The style of management employed by the institution; the consistency of management advocacy for the change issue at various levels within the institution; the turnover of management in times of change (i.e.: continuity of management); the choice of the change model and planning approach for the proposed change; the amount of internal and external research (investigation) undertaken in the initial planning phase; the assumption by managers that employees will change; and the use of appropriate change monitoring systems to observe progress or to register problems in the change process.

5.8.2 The Engagement Message

How the engagement message is determined and by whom; how the engagement message is structured; the clarity and consistency of the engagement message; the perceived sincerity of the engagement message; the continuing provision of relevant information; and the need for ongoing internal stakeholder access to the engagement agents to clarify and to update information.
5.8.3 **Internal Stakeholder Relations Issues**

The opportunity for genuine participative involvement; the changing of traditional work practices and work roles; the provision of career path opportunities, the changing role of the promotion and tenure system; the provision of detail on associated industrial relations matters, e.g.: monetary rewards and demarcation issues; and the provision of employee support services in times of change, e.g.: financial and personal counseling.

5.8.4 **Variables**

The location of the workplace setting; its culture and associated stakeholder expectations; the perceptions and ecological transition capacities amongst stakeholders; the previous experience of individual stakeholders and groups of stakeholders; the age of the stakeholder; the influence of unanticipated external events, e.g. economic forces or significant world events; the impact of externally driven change such as government policy; and the blurring of ongoing and concurrent change issues which can give rise to accumulated resistance.

Employees (internal stakeholders) are most comfortable with routine and stability therefore, change will need to be patiently dealt with by employers and managers (Dennis, 1996; Hurst, 1991). With this advice to mind, it would appear more constructive that administrators, faculty and staff learn to anticipate resistance towards proposed change, and enhance their management skills to not only accurately diagnose potential and entrenched resistance, but to also choose the most appropriate method for managing and overcoming the resistance (Dennis, 1996; Hurst, 1991; Kotter & Schlesinger, 1979). Thus the role that the Department of Agricultural Education and Studies needs to play in advancing the engagement initiative is to reinforce the complex nature of issues that need to be addressed in the change process. From there, the Agricultural Education and Studies department could link the proposed IECBP model to advance institutional engagement. Further the Agricultural Education and Studies department should aid in the development of institutional engagement learning organizations, which should promote transformational learning at both the individual and organizational levels. The next section will outline specific areas that the Department of Agricultural Education and Studies could originate in advancing institutional engagement within the College of Agriculture.
5.9 Moving the Focus Beyond Resistance

Promoting employee (internal stakeholder) readiness for institutional change is quite a recent phenomenon. It had its origins in the work of Coch and French (1948), Lewin (1947; 1952), and Kotter and Schlesinger (1979). More recent research undertaken by Armenaskis, Harris and Mossholder (1993) proposes, “…readiness is the cognitive precursor to the behaviors of either resistance to, or support for, change effort” (p. 682). Further, they state, “…making an explicit distinction between readiness and resistance helps refine discussions of the implementation of change efforts and captures the spirit of the pro-active change agent” (p. 682).

It is suggested by Dennis (1996) that inherent in the Armenaskis, Harris and Mossholder (1993) theoretical readiness model, is the acceptance that employee resistance is always likely to exist, so rather than focus on resistance as a problem, Armenaskis, Harris and Mossholder (1993) discuss a range of factors which they believe contribute to employee readiness to willingly participate in the change process. It is proposed that the Department of Agricultural Education and Studies give support to advancing the engagement initiative via Armenaskis, Harris and Mossholder (1993) factors. These factors include 1) the change message; 2) interpersonal and social dynamics; 3) influence strategies; 4) readiness assessment; and 5) change agent attributes.

5.9.1 The Change Message

This is the “message” conveyed to internal stakeholders within the institution in preparing the climate for institutional engagement. Here, the Department of Agricultural Education and Studies should provide considerable emphasis to the engagement (readiness) message, specifically addressing two issues:

a) the need for institutional engagement, that is the discrepancy between the desired end state, (which must be appropriate for the institution), and the present state: and
b) the individual and collective efficacy (i.e, the perceived ability to achieve institutional engagement) of parties affected by the engagement process.

Discrepancy conveys information about the necessity for the proposed change, and this information should be “consistent with relevant contextual factors” (Armenaskis, Harris and Mossholder, 1993, p.684) such as changing stakeholder needs, current or projected political and economic conditions. The end state refers to the desired outcome of any proposed change, which
aligns with the notion of transformation as proposed by Mezirow (1981; 1990) and Watkins and Marsick (1993). Additionally, Armenaskis et al. (1993) emphasize the need to highlight the importance of leadership vision in “clarifying and gaining commitment to the end state against which the organization is judging its present condition and justifying the need for change” (p: 685).

While discrepancy may be a significant motivator for some internal stakeholders, other possible reactions to proposed changes should not be overlooked. Armenaskis et al. (1993) highlight the research of Nadler and Tushman (1989) who suggest that awareness of the discrepancy factor by internal stakeholders could result in adverse or counterproductive behaviors towards the change process, including: “denial, flight or withdrawal” (p. 685). In anticipation of potential adverse reactions to proposed changes within an institution, Armenaskis et al. (1993) draw on the work of Bandura (1982; 1986) who focuses on the notion of employee confidence or “efficacy” which he describes as their perceived “capability to correct the discrepancy” (p: 685). Thus, the Department of Agricultural Education and Studies should heed Armenaskis et al. (1993) suggestion that in an effort to balance the change message, it should also contain efficacy-building cues to enhance employee confidence in their own belief that they have the capacity to overcome the discrepancy.

5.9.2 Interpersonal and social dynamics

Armenaskis et al. (1993) highlights the need for the change agent to understand the distinction between, and the significance of, individual and collective readiness. They suggest that “through the dynamics of social information processing, an organization’s collective readiness is constantly being influenced by the readiness of individuals comprising it” (p: 686), which once again, relates to the capacity building process for institutional engagement. Guided by the proposed IECBP model, the Department of Agricultural Education and Studies could facilitate and advance the engagement initiative.

5.9.3 Influence Strategies

This aspect requires the change agent (possibly the Department of Agricultural Education) to be able to intervene subtly in the natural flow of social information processing that is occurring between individuals within the organization to increase their readiness for change. Drawing from a range of literature, Armenaskis et al. (1993) suggests three strategies that could influence the individual’s capacity to understand the concept of readiness. Firstly they list persuasive communication that is the information carried in the ongoing change message relating to discrepancy
and efficacy, but also include the symbolic messages associated with the change process, such as management commitment to, and priority and urgency of, the proposed change. These messages may be in either written or oral form. Secondly they highlight the need to manage external information may be discreetly included (or excluded) to enhance the change message that is being used within the organization.

Finally, through active participation opportunities are provided for internal stakeholders to learn or gain information through participative involvement in activities related to readiness building. Research referred to by Armenaskis et al. (1993) suggests that the “message generated through active participation is essentially self-discovered” (p. 689) and that this “... is advantageous since individuals tend to place greater trust in information discovered by themselves” (p. 689). Active participation may “…involve employees in activities which are rich in information pertaining to potential discrepancy and efficacy messages” (p. 689).

The findings of this research project highlights three forms of active participation that the Department of Agricultural Education and Studies can assist with advancing the engagement initiative within the College of Agriculture. The first refers to the direct involvement of internal stakeholders in activities closely associated with information gaining opportunities related to the discrepancy and efficacy cues of institutional engagement. In the College of Agriculture, this could translate to internal stakeholder participative roles in a range of situations, including working parties, joint consultative committees, quality assurance teams, institutional engagement learning communities, specific project teams, or internal stakeholder representation on specific industry councils or civic boards.

The second form of active participation described that the Department of Agricultural Education and Studies can provide leadership for relates to vicarious learning. Where the department can suggest opportunities for internal stakeholders to observe others utilizing new and innovative techniques and engagement practices in which could in turn enhance the observer’s confidence (and readiness) to attempt and adopt the technique or practice.

The final form of active participation relates to enactive mastery that provides opportunity for internal stakeholder involvement and success in small incremental steps towards a larger desired change for advancing the engagement initiative. These smaller success opportunities for internal stakeholders can assist in generating efficacy towards the larger desired change and this would link closely to the participative roles mentioned in direct participation.
5.9.4 Readiness Assessment

In an effort to guide readiness-building progress, the Department of Agricultural Education and Studies could assist by monitoring the process, and this can be done through such techniques as questionnaire, informal and structured interview, action research, and observation methods. While Armenaskis et al. (1993) refers to research which cautions that “... the change agent must respect the importance of reliability and validity issues” (p.691), they also add that if the readiness assessment is effectively conducted, then it “... can reveal the need to intensify efforts, use additional strategies to create readiness, and offer insights into how readiness messages might be modified” (p. 691).

5.9.5 Change Agent Attributes

Whether an internal or external change agent be used, the “effectiveness of the influence strategies is dependent on the change agent using them” (Armenaskis et al., 1993, p. 690). Thus the credibility of the change agent in such attributes as knowledge and expertise, trustworthiness and sincerity will have a direct influence in building readiness within an organization.

Although these five components are significant considerations when attempting to create internal stakeholder readiness for institutional engagement programming or activities, Armenaskis et al. (1993) recommend that they should be structured with two further considerations,

1. the degree to which the employees are ripe or primed to commence the change process, as determined through a readiness assessment, and
2. the urgency of the change based on the amount of time available before the changes must be implemented (p. 691).

Armenaskis et al. (1993) believe that some proposed changes may be more extreme, and potentially more disruptive to employee and organizational harmony, thus making the urgency factor (time frame) of readiness building a vital consideration in the planning phase. They believe that by combining the readiness and urgency factors of change, various conditions can be inferred, thus planned and prepared for, to ensure the desired end state is achieved.

To summarize, it is suggested that the Department of Agricultural Education and Studies provide leadership for five primary and two secondary factors in developing internal stakeholder readiness for institutional engagement. The primary factors include: an effective change message, incorporating both discrepancy and efficacy components; consideration of interpersonal and social dynamics within the institution; influence strategies both within and beyond the institution in times of change; undertaking a readiness assessment; and ensuring appropriate change agent attributes.
Secondary factors that should also be considered are the level of internal stakeholder readiness for institutional engagement, and the urgency or available lead-time for implementing the needed change. However, it is noted that whilst the issues listed in the Armenaskis et al (1993) readiness model are substantial and complex and should not be understated, they are primarily issues to be considered in times of planning and preparing for institutional engagement, rather than strategies which facilitate the learning and development that is necessary at both an individual and organizational level to ensure the transformation of the institution.

5.10 Building on the Institutional Engagement Capacity Building Process

Learning has always occurred in the work environment and “...recurrent, lifelong education and training...are implicit requirements of the modern workplace (Waugh, 1996 p: 15). Since the late 1970's, a range of literature has discussed the concept of the learning organization, which is defined by Senge (1990) as an organization “...where people continually expand their capacity to create the results they truly desire, where new expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn” (p. 14). This definition sounds comprehensive and appears to support the idea of transformation at both individual and organizational levels (Mezirow, 1980; 1990; Watkins & Marsick, 1993), but there has been some doubt expressed as to whether the type of organizations promoted by the Senge (1990) definition commonly exist (Dennis, 1997b; Tight, 1996; Thompson & Mabey, 1994; Watkins & Marsick, 1993). These authors suggest that a lack of recognition of the complex nature and provision of appropriate human resource development strategies often undermines the realization of a learning organization. The talk of being a learning organization is quite different to the reality. Well-intentioned strategies are often undermined by the lack of knowledge of the complex considerations and holistic approach necessary to establish such a reality.

Two recent articles have listed key components for the design of a learning organization. The first paper by Watkins and Marsick (1993) lists what they refer to as action imperatives as the framework of a successful learning organization. These include: 1) creating continuous learning opportunities; 2) the promotion of inquiry and dialogue; 3) encouraging collaboration and team learning; 4) the establishment of systems to capture a collective vision; and 5) the need to connect the organization to its environment (p: 11). The second paper written by Field (1995) proposes that there are three essential components to a learning organization, including a well developed capacity for double loop or composite learning; an ongoing attention to learning how to learn, and finally that key
areas of organizational functioning support learning. These two frameworks are similar in their
directions as seen below. Both articles endorse the need for:

1. a well-developed capacity for double loop learning;
2. promoting inquiry and dialogue;
3. creating continuous learning opportunities;
4. encouraging collaboration and team learning;
5. ongoing attention to learning how to learn;
6. empowering people towards a collective vision;
7. establishing systems that capture and share learning; and
8. connecting the institution to its environment.

As a result of combining the issues identified for employee readiness to change by
Armenaskis et al (1993), with the key components listed above for the development of an effective
learning organization (Field, 1995; Watkins & Marsick, 1993) the Department of Agricultural
Education and Studies can lend support for creating internal stakeholder readiness to institutional
engagement by:

- designing, delivering and evaluating an effective institutional engagement message,
  incorporating both discrepancy and efficacy components;
- advancing the need for considering both interpersonal and social dynamics within the College
  of Agriculture;
- benchmarking stakeholder influence strategies both within and beyond the institution;
- developing and administering readiness assessment instruments;
- frequently evaluating and benchmarking the level of internal stakeholder readiness for the
  institutional engagement initiative;
- advancing an understanding among internal stakeholders on learning how to learn with the
  goal of continuous improvement, and
- fostering the development of learning and learner friendly institutional systems and structures
  that support the institutional engagement initiative.

As stated by numerous researchers (Coch & French, 1948; Davis, 1977; Dennis, 1996a;
Hurst, 1991; Kotter & Schlesinger, 1979; Miner, 1988) and concluded by the findings of this
dissertation the resistance to change and institutional engagement by internal stakeholders in the
College of Agriculture has the potential of derailing the engagement initiative within the institution.
However, in accepting that internal stakeholder resistance is a component of reform in the College of Agriculture, the Department of Agricultural Education and Studies can play a significant role in creating internal stakeholder readiness for advancing the institutional engagement initiative. The complex nature of creating readiness should not be understated. It is a task that requires substantial professional input and should not be left to chance. As both Watkins and Marsick (1993) and Dennis (1996) pointed out even as training and development are components of the change process, they are not an end in themselves. As noted by the findings of Armenaskis, et al, (1993) significant issues need to be considered in the change process and it is suggested that these issues should be reinforced by the Department of Agricultural Education and Studies with strategies that promote the reality of a learning organization to provide opportunity for a successful institutional engagement capacity building process at both the individual and organizational levels. With these factors applied by the Department of Agricultural Education and Studies, it is anticipated that a climate of internal stakeholder readiness towards institutional engagement is likely to prevail.

5.11 Study Summary

This study started with the problem of colleges of agriculture having to build and maintain engaged institutions. College of Agriculture internal agents (faculty, staff and administrators) were used to both illustrate the potential problems of building and maintaining the engagement initiative, and serve as a starting point in examining other factors that impede the internal stakeholders from moving forward with the engagement initiative. A conceptual framework was created from the literature, theory and the researcher’s experience. The original conceptual framework served as the foundation for a method to elicit the process of building and maintaining institutional engagement. The study concluded with a series of conclusions based on the study’s objectives, a discussion of limitations in the findings and future research opportunities.

The study was successful in creating empirical descriptions and a conceptual framework that can be used in studying other institutions as they begin to build and maintain their engagement agendas. Finally, this research project has made a good start at defining a coherent perspective for what institutional engagement means and identifying the main issues that must be addressed in fulfilling the Kellogg Commission’s charge.
Thank you in advance for taking time to respond to the following questions. The goal of the research project is to trace the broad strategies to identify faculty needs, catalogue institutional resources, highlight academic strengths and capacities, and assess the beliefs of many individuals towards the Engaged Institution agenda set for by the Kellogg Commission on the Future of State and Land-Grant Universities.

Because no established body of research could be tapped to explore the attitudes and insights of faculty towards the institutional engagement agenda, this research endeavor was established as an exploratory venture to discover portraits of what faculty believe to define institutional engagement within a College of Agriculture. The purpose of developing this portrait is to illustrate the complex adaptive systems that should exist to reveal how engagement can evolve and develop within an institution. It is hoped that this portrait will not only assess the impact and scope of involvement with the broader community but also yield an approach that any College of Agriculture might use to gauge both the extent of its institutional engagement and how the engagement agenda is incorporated into its mission and the work of its faculty, staff, administration, and students.

Fill out the information in each section as requested and submit the form. You will receive a confirmation message from us shortly. Please complete this questionnaire by October 12, 2000.

<table>
<thead>
<tr>
<th>SECTION A — Demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directions: Please complete the following demographic questions. All information will only be used to compare responses among departments and faculty rank. Data will be reported anonymously.</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>A1. List the department where you hold an appointment.</th>
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<tbody>
<tr>
<td>Instructor</td>
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<table>
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<tr>
<th>A2. What is your current academic rank?</th>
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</thead>
<tbody>
<tr>
<td>Instructor</td>
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<table>
<thead>
<tr>
<th>A3. Do you currently hold either of the Administrative Titles? (Select one if applicable)</th>
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<tbody>
<tr>
<td>Department Chair</td>
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<table>
<thead>
<tr>
<th>A4. Gender?</th>
</tr>
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<tbody>
<tr>
<td>Male</td>
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<tr>
<th>SECTION B — Open Ended Personal Perceptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction: While the Kellogg Commission begins with an important emphasis on redesigning institutional teaching, research and outreach, it will not be concerned with quantifiable results alone. A major goal is to increase sharing and reciprocity between the institution and its stakeholders and to improve communication so that faculty, staff, students and stakeholders can benefit from the many advantages of working and learning in an engaging and pluralist institution. However, an engaged institution, one that is responsive, respectful of its partners' needs, accessible and relatively neutral, while successfully integrating institutional service into research and teaching, and finding sufficient resources for the effort does not create itself. Bringing the institutional engagement agenda into being requires leadership and focus.</td>
</tr>
</tbody>
</table>

To provide an impetus for increased college level awareness and more widespread involvement in a participative process, all faculty in collaboration with college administration, are asked to participate in this research process to initiate a continuing cycle of detailed engagement efforts.
Directions: After reading the definition of each component of the Kellogg Commissions Engaged Institution Seven-Part Test, please provide your insights about the research question associated with the component in the box provided.

<table>
<thead>
<tr>
<th>B1. Responsiveness</th>
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<tbody>
<tr>
<td><strong>(Kellogg Commission's Definition)</strong></td>
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<tr>
<td>Research Question:</td>
</tr>
<tr>
<td>Comments</td>
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</tbody>
</table>

<table>
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<tr>
<th>B2. Respect for partners</th>
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<tbody>
<tr>
<td><strong>(Kellogg Commission's Definition)</strong></td>
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<tr>
<td>Research Question:</td>
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<td>Comments</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>B3. Academic Neutrality</th>
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<tr>
<td><strong>(Kellogg Commission's Definition)</strong></td>
</tr>
<tr>
<td>Research Question:</td>
</tr>
<tr>
<td>Comments</td>
</tr>
</tbody>
</table>
### B4. Accessibility

*(Kellogg Commission’s Definition)* Our institutions are confusing to outsiders. We need to find ways to help inexperienced potential partners negotiate this complex structure so that what we have to offer is more readily available. Do we properly publicize our activities and resources? Have we made a concentrated effort to increase community awareness of the resources and programs available from us that might be useful? Above all, can we honestly say that our expertise is equally accessible to all the constituencies of concern within our states and communities, including minority constituents?

Research Question: Give examples of how you believe or do not believe we make ourselves “easy to do business with?”

Comments

### B5. Integration

*(Kellogg Commission’s Definition)* Our institutions need to find ways to integrate their service mission with their responsibilities for developing intellectual capital and trained intelligence. Engagement offers new opportunities for integrating institutional scholarship with the service and teaching missions of the university. Here we need to worry about whether the institutional climate fosters outreach, service, and engagement. A commitment to interdisciplinary work is probably indispensable to an integrated approach. In particular we need to examine what kinds of incentives are useful in encouraging faculty and student commitment to engagement. Will respected faculty and student leaders not only participate but also serve as advocates for the program?

Research Question: What measures should be taken to assist with integrating the engagement agenda with the research, teaching and outreach mission of your department?

Comments

### B6. Coordination

*(Kellogg Commission’s Definition)* A corollary to integration, the coordination issue involves making sure the left hand knows what the right hand is doing. The task of coordinating service activities — whether through a senior advisor to the president, faculty councils, or thematic structures such as the Great Cities Project or “capstone” courses — clearly requires a lot of attention. Are academic units dealing with each other productively? Do the communications and government relation’s officers understand the engagement agenda? Do faculty, staff and students need help in developing skills of translating expert knowledge into something the public can appreciate?

Research Question: What actions should be taken to ensure that the internal structure of your department embraces the engagement agenda?

Comments
B7. Resource partnerships

(KeIoeg Commission's Definition) The final test asks whether the resources committed to the task are sufficient. Engagement is not free: it costs. The most obvious costs are those associated with the time and effort of staff, faculty, and students. But they also include curriculum and program costs, and possible limitations on institutional choices. All of these have to be considered. Where will these funds be found? In special state allocations? Corporate sponsorship and investment? Alliances and strategic partnerships of various kinds with government and industry? Or from new fee structures for services delivered? The most successful engagement efforts appear to be those associated with strong and healthy relationships with partners in government, business, and the non-profit world.

Research Question: What type of alliances and strategic partnerships do you believe are currently in place or need to be developed to acquire resources to set the institutional engagement agenda in motion?

Comments

SECTION C — Leadership Initiative

Introduction: The Engagement debate has focused well and provided valuable insight concerning the university interaction with the community. While, little has been addressed concerning how the university might make itself more permeable by its stakeholders.

Directions: Select a number from the scale to the right of each statement. The use of numbers from the lower end (1 low) of the scale indicates that the statement is unlike the way that the leadership initiative is approached. The use of the numbers from the upper end (5 high) of the scale indicates a current approach similar to the statement.

1. Faculty within my department demonstrates a _______ level of leadership on behalf of institutional engagement?

2. The Department Executive Officer within in my department demonstrates a _______ level of leadership on behalf of institutional engagement?

3. The College Administration demonstrates a _______ level of leadership on behalf of institutional engagement?

4. To what extent do you believe faculty performance reviews are prepared to value leadership activities on behalf of the Institutional Engagement agenda?

5. To what extent have engagement issues been given time and attention at department meetings, retreats etc.?

6. To what extent have new or enhanced strategies been developed within your department to meet the goal of institutional engagement?

7. What level of effort has been made within your department to acquaint faculty with institutional engagement strategies for effective instruction in the classroom?

8. What level of effort has been made within your department to acquaint faculty with institutional engagement strategies for effective outreach activities?

9. What level of effort has been made within your department to acquaint faculty with institutional engagement strategies for effective research endeavors?

10. What level of resources (time and capital) within your department should be allocated towards the institutional engagement agenda?
FORM SUBMISSION

If you are willing to participate in a follow-up interview, please provide the following information. If you do not wish to participate in a follow-up interview, simply complete the questionnaire by pressing the submit form button below.

Name: ________________________________

Telephone Number: ______________________

E-mail address: __________________________

To learn more about the Kellogg Commission on the Future of State and Land-Grant Universities go to the National Association of State Universities and Land-Grant Colleges web site at http://www.nasulgc.org

Thank you for taking the time to answer the questions in this survey. My email address is nidwoods@iastate.edu; I'd enjoy hearing from you as I move ahead on this timely project.

Comments: ____________________________

Best regards,
Mikel Woods
Ph.D. Candidate
Agricultural Education and Studies
APPENDIX B

SURVEY INSTRUMENT 2

"Making Your Beliefs Count!"

The University and the College of Agriculture strategic plans are based on the concept of institutional engagement. This research tool was prepared in response to these strategic plans and an earlier open-ended survey assessing faculty, staff and administrations beliefs and attitudes concerning the engagement initiative. We invite you to participate and share your insights on the questions below. The research tool takes only a few moments to complete. Your views will be combined with others in the College of Agriculture to get a group profile regarding institutional engagement.

All questions are optional, although we would like as much data as possible. Data will be reported anonymously. In August of 2001, all records of this research will be destroyed. Your decision to participate is purely voluntary; responding to the assessment tool constitutes implied consent to take part in this project.

We are sure that your insight will provide a significant impact on the process of building and maintaining institutional engagement within the College of Agriculture. We appreciate your interest and assistance in researching this timely initiative within higher education. For further information or questions, please contact Mikel Woods at 294-4349 or mdwoods@iastate.edu.

Please complete this questionnaire by November 27, 2000.

Iowa State’s Aspiration: Becoming The Best Land-Grant University (Statement from ISU Strategic Plan defining institutional engagement, page 1). "As an Engaged Institution, Iowa State’s tripartite function (learning, discovery, and engagement) will become more responsively and productively involved with our constituent communities; and we will represent the ideals of sharing and partnership by recognizing and respecting what our partners bring to the table. We will work in collaboration with others and expand partnerships with our educational institutions, government, and the private sector, building upon each other’s strengths and focusing on what each can do best.”

Directions:

1. There are no right or wrong answers to these questions. They help to provide your view of the College of Agriculture and elements essential for sustaining institutional engagement.
2. Read each statement carefully as it applies to the College of Agriculture and your role in achieving the engagement initiative.
3. Use the four-point scale to indicate your degree of agreement or disagreement with the statement by clicking your preferred response. Please note the "agree" and "disagree" responses vary for each question.
4. The orientation of some statements are worded positively and others are worded negatively. They are arranged so that each statement stands independently and with the hope that early statements will be of little influence on successive statements.

Please note the "agree" and "disagree" responses below vary for each item.
### Questions of Existence: A term connoting that from which organizational action moves.

<p>| | | | | |</p>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>The history of Iowa State University does not limit the institutional concept of engagement.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>2</td>
<td>The statement: &quot;we've always done it this way&quot; is an over arching force in the College of Agriculture.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>3</td>
<td>Faculty, staff and administration in the College of Agriculture feel trapped by the past.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>4</td>
<td>The function of the College of Agriculture can't be changed.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>5</td>
<td>Land-Grant institutions face challenges that are not overwhelming.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>6</td>
<td>Faculty, staff and administration in the College of Agriculture are primarily concerned about survival.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>7</td>
<td>Faculty, staff and administration in the College of Agriculture are stuck in the past with few or no future possibilities of significant change.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>8</td>
<td>The College of Agriculture has a rich tradition that guides its future.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>9</td>
<td>The function of the College of Agriculture remains relevant.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>10</td>
<td>The College of Agriculture is overwhelmed by forces beyond its control.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
</tbody>
</table>

Now add up the number of items circled in each column.

### Questions of Resources: A material term connoting that with which organizational action moves.

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<td></td>
</tr>
<tr>
<td>11</td>
<td>The College of Agriculture has the right human resources to accomplish the engagement initiative.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>12</td>
<td>The College of Agriculture does not have adequate financial resources to accomplish the engagement initiative.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>13</td>
<td>The College of Agriculture efficiently utilizes its human and financial resources to achieve the engagement initiative.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>14</td>
<td>Faculty, staff and administration in the College of Agriculture do not have the necessary skills or knowledge to achieve institutional engagement.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>15</td>
<td>A lot of time, money, and/or materials are wasted in the College of Agriculture that do not support the engagement initiative.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>16</td>
<td>Money and other support are adequate for the engagement initiative in the College of Agriculture.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>17</td>
<td>Good training for the faculty, staff and administration on institutional engagement is one of the institutions assets.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>18</td>
<td>Faculty, staff and administration's ideas and skills are wasted in the College of Agriculture.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>19</td>
<td>Facilities and equipment are available to carry out the engagement initiative.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
</tr>
<tr>
<td>20</td>
<td>A shortage of revenue limits the effectiveness of engagement activities.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
</tbody>
</table>

Now add up the number of items circled in each column.
**Questions of Structure:** a form and process term defining that through which organizational action moves.

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>21. We need greater internal stakeholder coordination in the College of Agriculture to achieve the engagement initiative.</td>
<td>Strongly Agree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>22. The tasks of faculty, staff and administration concerning institutional engagement are clearly defined.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>23. The College of Agriculture does not move very fast towards institutional engagement because it is poorly organized.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>24. The College of Agriculture has effective procedures in place to accomplish its mission.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>25. The structure of the College limits opportunities for me to voice my opinions.</td>
<td>Strongly Agree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>26. Structures are in place for idea sharing, but they just don’t work.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>27. Faculty, staff and administration in the College of Agriculture communicate well with each other.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>28. The structure of the College of Agriculture is cumbersome in achieving the engagement initiative.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>29. The College of Agriculture has a system for effective communication with stakeholders.</td>
<td>Strongly Agree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>30. Faculty, staff and administration within the College of Agriculture are too often assigned to the wrong tasks.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

**Now add up the number of items circled in each column.**

**Questions of Power:** an energy term signifying that by which organizational action moves.

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
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<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. Faculty, staff and administration are apathetic towards understanding mutual needs.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>32. Faculty, staff and administration in the College of Agriculture are motivated to achieve institutional engagement.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>33. There is too much sneakiness in the College of Agriculture.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>34. There is a lot of energy and excitement in the College of Agriculture about institutional engagement.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>35. Activities to achieve new initiatives are often determined by only a few powerful individuals in the College of Agriculture.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>36. The College of Agriculture seems to be more reactive (putting out brush fires), rather than proactive (taking control) to change.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>37. Faculty, staff and administration cooperate well in the College of Agriculture.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>38. Faculty, staff and administration in the College of Agriculture frequently disagree over common goals.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>39. Struggles for control are common occurrences in the College of Agriculture.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>40. Differences are discussed openly in the College of Agriculture.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

**Now add up the number of items circled in each column.**
<table>
<thead>
<tr>
<th>Questions of Mission: A direction term identifying that towards which organizational action moves.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>41. The College of Agriculture has clear goals for institutional engagement.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>42. We don't have a clear purpose in the College of Agriculture; we just carry on with the same activities year after year.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>43. The College of Agriculture lacks alignment; there seem to be multiple purposes that are at odds with one another.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>44. I feel that I clearly understand the College of Agriculture's institutional engagement mission.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>45. I have trouble understanding where the College of Agriculture is headed concerning the institutional engagement initiative.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>46. Faculty, staff and administration in the College of Agriculture have a good grasp of ISU's purposes for achieving institutional engagement.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>47. There seems to be a lot of confusion among people in the College of Agriculture on where ISU as an institution is headed with regards to engagement.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>48. There is a lot of confusion among faculty, staff and administration on where the College of Agriculture is headed with engagement.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>49. There is wide agreement on the processes the College of Agriculture is using to accomplish institutional engagement.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>50. Faculty, staff and administration in the College of Agriculture have trouble making decisions because they have no common purpose to guide them.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
</tbody>
</table>

Now add up the number of items circled in each column.

| Column 1 | Column 2 | Column 3 | Column 4 |

<table>
<thead>
<tr>
<th>Questions of Meaning: significances, purpose and/or sense giving term implying that for which organizational action moves.</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>51. Faculty, staff and administration in the College of Agriculture know why the institutional engagement initiative exists.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>52. Things just aren't fair in the College of Agriculture.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>53. The reasons for the institutional engagement initiative are worthwhile.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>54. Faculty, staff and administration in the College of Agriculture have difficulty resolving internal problems.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>55. Faculty, staff and administration in the College of Agriculture feel they are achieving things they value as important.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>56. Faculty, staff and administration's confusion about institutional engagement is causing undo problems.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>57. There is a clear consensus among faculty, staff and administration that the College of Agriculture is engaged with external stakeholders.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>58. I'm feel confident about my role in the engagement initiative.</td>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
</tr>
<tr>
<td>59. External stakeholders feel that the College of Agriculture's work is important.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
<tr>
<td>60. External stakeholders know why the College of Agriculture is doing what it is doing.</td>
<td>Strongly Agree</td>
<td>Agree</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
</tr>
</tbody>
</table>

Now add up the number of items circled in each column.

<p>| Column 1 | Column 2 | Column 3 | Column 4 |</p>
<table>
<thead>
<tr>
<th>DEMOGRAPHICS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Institutional Status</strong></td>
</tr>
<tr>
<td>Faculty</td>
</tr>
<tr>
<td>Administrative Title</td>
</tr>
<tr>
<td><strong>Number of years served University?</strong></td>
</tr>
<tr>
<td><strong>Number of University, College and/or Departmental committees have you served on in the last 3 years.</strong></td>
</tr>
</tbody>
</table>

**FORM SUBMISSION**

To learn more about the Kellogg Commission on the Future of State and Land-Grant Universities go to the National Association of State Universities and Land-Grant Colleges web site at http://www.nasulgc.org

Thank you for taking the time to answer the questions in this survey. The results of this and other research data will be summarized to produce Mikel Woods' dissertation on the process of building and maintaining institutional engagement within the College of Agriculture.

**Comments:**

Best regards,
Mikel Woods
Ph.D. Candidate
Agricultural Education and Studies
SCORE SHEET

<table>
<thead>
<tr>
<th>SCORES</th>
<th>From each page put the totals for each column in the appropriate space below</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Column 1</td>
</tr>
<tr>
<td>Existence Responses</td>
<td></td>
</tr>
<tr>
<td>Statements 1-10</td>
<td></td>
</tr>
<tr>
<td>Resources Responses</td>
<td></td>
</tr>
<tr>
<td>Statements 11-20</td>
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<tr>
<td>Structure Responses</td>
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<td>Statements 21-30</td>
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<tr>
<td>Power Responses</td>
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<tr>
<td>Statements 31-40</td>
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<tr>
<td>Mission Responses</td>
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<td>Statements 41-50</td>
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<tr>
<td>Meaning Responses</td>
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<td>Statements 51-60</td>
<td></td>
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</tbody>
</table>

Mark an "X" below, corresponding to the score in column 5 above, for each element. Draw a horizontal line from zero (0) to your score for each element.

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1</th>
<th>2</th>
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<tr>
<td>Existence</td>
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<td>Meaning</td>
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</tbody>
</table>

The longest horizontal bars indicate elements that are presenting problems to the individual agent.
APPENDIX C

HUMAN SUBJECTS APPROVAL

Information for Review of Research Involving Human Subjects
Iowa State University
(Please type and use the attached instructions for completing this form)

1. Title of Project  "The Engaged Institution: Perceptions of and Implications for Colleges of Agriculture"

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for review. I agree to request renewal or approval for any project continuing more than one year.

   Michael D. Woods  12.10.99
   Typed name of principal investigator  Date
   Agricultural Education & Studies  223 Curiss Hall  Department
   Phone number to report results:  239-496-1105  Campus address

3. Signatures of other investigators  Date  Relationship to principal investigator
   Dr. Lynn Jones  12.01.99  Major Professor

4. Principal investigator(s) (check all that apply)
   Faculty  Staff  ☒ Graduate student  ☐ Undergraduate student

5. Project (check all that apply)
   ☐ Research  ☐ Thesis or dissertation  ☐ Class project  ☐ Independent Study (490, 590, Honors project)

6. Number of subjects (complete all that apply)
   # adults, non-students: 1000  # minors under 14: 0  # minors 14 - 17: 0
   # ISU students: 0
   other (explain):  

16. Anticipated dates for contact with subjects:
   First contact  January 05, 2000  Last contact  October 01, 2000
   Month/Day/Year  Month/Day/Year

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:
   May 01, 2000  Month/Day/Year

18. Signature of Departmental Executive Officer  Date
   ____________________________  12/14/99
   Department or Administrative Unit  Agricultural Education

19. Decision of the University Human Subjects Review Committee:
   ☒ Project approved  ☐ Project not approved  ☐ No action required

   Name of Human Subjects in Research Committee Chair  Date
   Patricia M. Keith  12-17-99  Signature of Committee Chair
   ____________________________


The Economist, (June, 22, 1996, p 98).


