



ISU ADVANCE Collaborative  
Transformation Project

---

# First Round Focal Department Synthesis Report\*

*Ecology, Evolution, and Organismal Biology*

*Genetics, Development and Cell Biology*

*Materials Science Engineering*

**March 2008**

**Sharon R. Bird and Florence A. Hamrick**

Citation information: Sharon R. Bird and Florence A. Hamrick. 2008. *ISU ADVANCE Collaborative Transformation Project: First Round Focal Department Synthesis Report (March 2008)*. Iowa State University ADVANCE Program. Report available online at: <http://www.advance.iastate.edu/resources.shtml>.

\*Contact: [sbird@iastate.edu](mailto:sbird@iastate.edu) for more information about the ISU ADVANCE Collaborative Transformation Project.



## **Leadership Team**

### **ADVANCE Principal Investigator (PI)**

**Susan Carlson**

Associate Provost for Faculty Advancement and Diversity  
and Professor of English

### **ADVANCE Co-Principal Investigators (Co-PIs)**

**Sharon R. Bird**

ADVANCE Research Director  
Associate Professor Sociology

**Bonnie Bowen**

ADVANCE Executive Director  
Adjunct Assistant Professor Ecology, Evolution, and Organismal Biology

**Diane Debinski**

Professor Ecology, Evolution, and Organismal Biology

**Carla Fehr**

Associate Professor Philosophy and Religious Studies

**Sandra Gahn**

Senior Research Analyst Institutional Research

**Florence A. Hamrick**

Associate Professor Educational Leadership and Policy Studies

**Frankie Santos Laanan**

Associate Professor Educational Leadership and Policy Studies

---

# Executive Summary

by Sharon R. Bird and Diane M. Debinski

March 2008

This report summarizes research from the Iowa State University ADVANCE Collaborative Transformation (CT) Project. The results discussed here are based on intensive research conducted within three STEM (Science, Technology, Engineering and Mathematics) departments at ISU during 2006-2007. The report also reviews some of the activities within the departments aimed at enhancing workplace climate and improving recruitment, retention and promotion of diverse faculty that have been inspired and informed by the CT Project. These activities are funded by a 5 year grant from the National Science Foundation's ADVANCE Institutional Transformation program, which is designed to create an infrastructure for transforming structures, cultures, and practices in ways that enable and support recruitment, retention and promotion of women faculty in STEM fields. This report represents one step in an overall multistage process. The CT Project will eventually include six additional focal ISU STEM departments, a further synthesis of findings from all departments over a 5-year period, and the development and refinement of assessment tools aimed at identifying and reducing barriers to faculty scholarly success—including issues that hinder the recruitment, retention and promotion of women faculty.

The three departments participating in the first round of the CT Project are Ecology, Evolution, and Organismal Biology (EEOB), Genetics, Development and Cell Biology (GDCB), and Materials Science Engineering (MSE). These departments represent three colleges: The College of Liberal Arts and Sciences, the College of Agriculture and Life Sciences, and the College of Engineering. Department Chairs and faculty in each of these departments have been working together with expert consultants (social scientists in the fields of organizational studies, work and higher education) and members of the ISU ADVANCE Co-PI Leadership Team and its partners to help ISU better understand how to ensure positive departmental work environments and to achieve the overall goals of ADVANCE grant project.

iii

The departmental work involved in the project was organized by ADVANCE Professors, Department Chairs and a departmental team or advisory group in each respective department. The methods for gathering the in-depth qualitative data were focus groups, individualized interviews with faculty and chairs, and existing documents (e.g., departmental governance documents) from each of the three STEM departments. The average participation rate among the faculty in the three departments was 71.5 percent. All interviews and focus groups were audio-recorded and then transcribed. Transcriptions yielded more than 1000 double-spaced pages of raw data in addition to the respective governance documents and notes from focal departmental web sites. The data were first analyzed separately for each department. Separate reports (executive summary, findings, strategies for addressing salient issues, summary of research methods) were then written for each department so that individual departments could begin the process of addressing issues particular to their own department.

The CT Project is designed to “mirror back” to faculty within each department aspects of their own workplace climate that influence how positive their climate is and how effective the department’s recruitment, retention and promotion practices are. This requires using focus group and interview data to better understand departmental structures, practices, and cultures. Departmental *structures* include codified and or routine decision-making processes, including governance documents, resource allocation procedures, and committee configurations. Departmental *practices* refer to the systematic actions in which faculty members generally engage. And departmental *cultures* refer to prevailing values, norms, assumptions and symbols of departmental members and their activities.

After the three separate departmental reports were completed (as noted above), the data for all three departments were then analyzed collectively in order to identify those issues that were salient across all three departments. Thus, this synthesis report is not a simple merging of all findings from the separate departments, but rather represents only the issues that were common to all three departments.

The six major findings across all three departments are listed below, with assessment tools for identifying possible next steps below each finding. Note that while all of the issues presented as findings below have clear implications for women faculty and other underrepresented faculty groups, each also has implications for those groups that are not underrepresented in faculty roles.

1. **ISSUE:** Spatial proximity of departmental members affects the development of community and collegiality, mentoring, and sharing of information.

**ASSESSMENT TOOL:** *In departments where* faculty members are dispersed across multiple buildings (or floors in buildings), departmental leaders must take proactive steps to create spaces and time periods for junior faculty and tenured faculty to interact face-to-face with one another. Dispersion of faculty may also impact faculty productivity, mentoring relationships, and faculty members’ awareness of their colleagues’

contributions to research, teaching, and service activities (see p.22 of report).

2. **ISSUE:** Perceived gaps exist between stated or assumed departmental ideals and actual practices with regard to research, teaching, and service assignments. In some cases, there is a lack of information regarding how these assignments are distributed.

**ASSESSMENT TOOL:** *In departments where* differing assumptions between faculty members exist regarding the *relative value of and reward structures for* research, teaching, outreach and service, or when there is a lack of information about how research, teaching and service assignments are distributed, departments may benefit by sharing averages and ranges of work by rank among department members (see p.22 of report).

3. **ISSUE:** Regarding mentoring, department Chairs play an essential role in aiding Assistant and Associate professors' understanding of expectations for tenure and/or promotion and in lending support to faculty members during promotion and tenure processes. Faculty also noted the importance of mentoring relationships between Assistant Professors and senior faculty (Full and Associate), though the quality of these mentoring relationships was not the same for all Assistant professors. A significant proportion of Associate professors and department Chairs explained the need for mentoring beyond the Assistant professor level.

**ASSESSMENT TOOL:** *In departments where* Assistant and Associate professors are unable to develop effective mentoring relationships with senior colleagues, and/or if mentoring programs for Assistant professors are not consistent, and/or if mentoring programs for Associate professors do not exist, departments may benefit from (see also p.23 of report):

- sharing aggregated departmental information regarding faculty productivity by rank with regard to publications, grants, teaching and service;
- holding discussions for Associate Professors about promotion similar to the discussions that department Chairs and Assistant Professors often have (in the focal departments participating thus far in the CT project);
- a university-wide discussion about how to revamp the university's faculty mentoring program, including a discussion of mentoring for Associate professors, and a discussion of the relative value and rewards to be attached to teaching, research, and outreach (and/or "service").

4. **ISSUE:** Faculty across departments embrace the assumption that all tenure-track and tenured faculty are entitled to express their views freely and without repercussion in important faculty discussions (e.g., about self-governance, hiring, curriculum, departmental service activities). Faculty of all ranks acknowledged that this ideal exists and that it *should* govern actual practices. Assistant professors were, however, less apt to believe that this ideal truly applied to them.

**ASSESSMENT TOOL:** *In departments where* members wish to ensure that all faculty feel free and safe to express individual opinions about self-governance, hiring decisions,

v

and other departmental issues, but some faculty members perceive or experience negative repercussions for taking unpopular stances that differ from other faculty members in the department, departments may benefit from (see also p.24 of report):

- posting, explaining and reiterating best practices to ensure that less assertive faculty members' voices be included in faculty discussions;
- using secret ballots to help increase freedom of expression when topics are controversial.

5. **ISSUE:** Regarding the recruitment and retention of faculty, including women faculty and faculty of color, faculty identified four primary issues: developing candidate pools, evaluating candidate applications and evaluating on-campus interviewees, presenting a positive work environment during on-campus interviews, and developing proactive strategies for retaining faculty. Though considerable efforts are being made to ensure the recruitment, retention and promotion of highly qualified faculty, there remain in place practices that result unintentionally in lower levels of success in recruiting and retaining women faculty and underrepresented faculty of color.

**ASSESSMENT TOOL:** *In departments where* success levels in the areas of recruitment and retention outlined above are below acceptable or desired levels, departments may benefit from (see also p.25 of report):

- discussing diversity as a requisite part of a strategic plan for achieving and maintaining excellence;
- explicit use of agreed upon evaluation criteria, conscious monitoring of discussions about applicant files to ensure observations about faculty candidates are supportable by the evidence;
- inviting as seminar presenters women and persons of color who are post-docs and graduate students at universities known to graduate and attract (as post-docs) higher proportions of women and people of color;
- presentations that highlight studies about unintentional bias problems associated with the recruitment and evaluation of candidates;
- use of uniform candidate forms for evaluating candidates that include a list of the criteria in the position announcement/job description;
- discussing each candidate's (or short list of candidates') strengths as well as weaknesses to help minimize the potential effects of unintended biases;
- emphasizing to on-campus interviewees faculty awareness of issues faced by women faculty and faculty of color, partner accommodation efforts, and university "family friendly" policies, including part-time tenure;
- identifying and implementing department-level policy changes that might clarify the department's long-term commitment to its faculty and to a family-friendly workplace.

6. **ISSUE:** ISU's "family friendly" policies have gained recognition in recent years and are generally supported by faculty. Many faculty members, at the same time, are

unaware of the extent of these policies and how they are operationalized. And among those faculty who are aware of the policies and how they operate (most of whom are women but also some men), a general consensus exists that parental leave provisions (including the tenure clock policy) are well-meant but impractical and that child care facilities are woefully lacking due to cost and limitations on enrollment.

**ASSESSMENT TOOL:** Because the issue of “family friendly” policies is university wide, the issues outlined above would appear to span all departments regardless of individual department’s structures, cultures and practices. Thus, *in addition to further support at the university level*, departments may benefit from (see also p.27 of report):

- faculty discussions about possibilities for developing department-specific policies for providing release time and course coverage during periods of family leave;
- Chairs’ and upper level administration’s expressed support for faculty members who use these policies in order to help other faculty members in the department understand how to evaluate the faculty member who utilizes one or more of ISU’s existing family friendly policies.

The goal of the ISU ADVANCE Collaborative Transformation project and the overall Institutional Transformation program is to increase recruitment and retention of a diverse faculty workforce in STEM fields. One of the most important take-home messages from this synthesis report is that creating these changes requires efforts at all levels of the university. The changes suggested will make ISU a better place to work and live. Chairs will need to work with faculty members at the department level to create positive and supportive working environment. Administrators above the department level will need to be thinking about policies that either help or hinder such efforts. Both a top-down and bottom-up approach to institutional transformation will be required to accomplish our goals. These efforts, in addition to helping diversify the faculty, will improve work climate and help ALL faculty members be more productive.

Executive Summary citation information: Bird, Sharon R. and Diane M. Debinski. 2008. “Executive Summary.” Pp. ii-vi in *ISU ADVANCE Collaborative Transformation Project: First Round Focal Department Synthesis Report (March 2008)* by Sharon R. Bird and Florence A. Hamrick. Iowa State University ADVANCE Program. Report available online at: <http://www.advance.iastate.edu/resources.shtml>.

---

# Contents

Executive Summary	.....	ii
Section 1 - Introduction	.....	1
Section 2 - Overview: Structures, Practices and Cultures	.....	6
2.1 Departmental Structures	.....	6
2.2 Departmental Practices	.....	7
2.3 Departmental Culture	.....	8
Section 3 - Synthesis of Findings (2006-2007)	.....	10
3.1 Spatial proximity and facilities issues	.....	10
3.2 Gaps between stated or assumed departmental ideals and actual practices	.....	10
3.3 Mentoring of Assistant and Associate Professors	.....	12
3.4 Influence of rank on ... departmental discussions and decision-making ...	.....	13
3.5 Diversity issues and the recruitment and retention of faculty	.....	14
General issues	.....	14
Developing a pool of candidates for open positions	.....	14
Evaluating candidate applications and evaluating on-campus interviews	.....	15
Presenting a positive work environment during on-campus interviews	.....	16
Retaining faculty	.....	17
3.6 Changing attitudes towards and use of “family friendly” policies	.....	18
Section 4 - Developing Departmental Change Strategies	.....	20
4.1 Collaborative Transformation and Institutional Change	.....	20
4.2 Assessment Tools for Reshaping Departmental Structures, Practices and Culture	.....	21
Issue 1: Spatial proximity and facilities issues	.....	22
Issue 2: Gaps between stated or assumed departmental ideals and ...	.....	22
Issue 3: Mentoring of Assistant and Associate Professors	.....	23
Issue 4: Influence of rank on ... departmental discussions ...	.....	24
Issue 5: Diversity issues and the recruitment and retention of faculty	.....	25
5a. diversity and standards of excellence	.....	25
5b. increasing pool of candidates	.....	25
5c. use of ill-defined criteria for evaluating	.....	26
5d. departmental culture and recruiting	.....	27
5e. departmental culture and retention	.....	27
Issue 6: Changing attitudes towards and use of “family friendly” ...	.....	27
4.3 Departmental change processes: Views from within the departments/ College and University support for change	.....	28
Section 5 - Data Collection and Methods of Analysis	.....	30
Section 6 - References	.....	32

# First Round Focal Department Synthesis Report

## Phase 1: Findings from Analyses of Focus Group and Interview Data and the Development of Departmental Change Strategies

By Sharon R. Bird and Florence A. Hamrick

### 1 Introduction

Iowa State University ADVANCE is a five-year, National Science Foundation (NSF) funded program designed to create an infrastructure at ISU for transforming structures, cultures, and practices in ways that enable and support recruitment and retention of a diverse, highly qualified and cohesive faculty. This infrastructure is designed to include “top down” university policies and procedures as well as “bottom up” initiatives involving departmental work climate and strategies for improving recruitment, retention and promotion of faculty.

To this end, ISU ADVANCE:

- collects base-line quantitative data on the representation and retention of women at all faculty ranks and related data from women and men faculty members on work-related issues such as satisfaction with departmental work climate and resource distributions,
- supports the utilization and further development of policies designed to enhance faculty productivity and job satisfaction,
- implements new programs to support faculty recruitment and retention, such as faculty networking events and a mentoring program for faculty of color,
- supports three Equity Advisors (positions created and supported by the ISU ADVANCE program) within the three focal colleges (Agriculture and Life Sciences, Engineering, and Liberal Arts and Sciences) who work with the Deans and other college-level administrators to facilitate institutional transformation efforts, and
- supports ADVANCE Professors (positions created and supported by the ISU ADVANCE program) in each of the 9 volunteer focal departments (to be phased in,

1

three at a time, over five years) who work with the ADVANCE Leadership Team (PI, Co-PIs), Equity Advisors, focal department Chairs, and fellow faculty members to develop and implement department-level transformation strategies as part of a process called “Collaborative Transformation” (see explanation on next page).

This synthesis report summarizes findings and initial efforts in the first phase of focal departments’ Collaborative Transformation (CT) efforts (2006-2007) and is intended to help inform all of the above *Institutional* Transformation efforts. Collaborative Transformation refers to a “bottom up” process whereby members of departments work together with expert social science consultants<sup>1</sup> to improve quality of the work environment and overall functioning of departments. Collaborative Transformation involves multiple steps over time. First, all members of a work unit, in this case faculty members within a department, are invited to participate in focus groups and interviews in which a trained facilitator collects data about aspects of the department’s environment (structures, cultures, practices) that enhance faculty members’ abilities to do their best work and aspects that detract from their abilities to succeed in scholarly endeavors. Trained researchers then analyze the data gathered in focus groups and interviews for each department in order to identify and prepare a department-specific ADVANCE (work climate and faculty recruitment, retention and promotion) report about the most salient issues affecting faculty members’ abilities to succeed in scholarly efforts, including issues that affect job satisfaction, commitment, and faculty achievements in research, teaching, extension or professional practice, and service.

Next, departmental Collaborative Transformation (CT) Team<sup>2</sup> (or advisory group) comprised of 2-3 volunteer faculty members, the department Chair, and the department’s ADVANCE Professor reviews the departmental ADVANCE report and discusses obstacles identified in the report as barriers to faculty members’ abilities to do their best work. Based on these deliberations, the departmental Team then presents this report, or a summary of it, to the rest of the faculty in their department for discussion. Taking into account inputs received from the full faculty, the departmental CT Team then outlines strategies for addressing issues identified in the report as areas for improvement. This process maximizes the likelihood that faculty members in each department will feel ownership of the issues identified in the report and of the change strategies that the department subsequently adopts.<sup>3</sup>

Once departmental change strategies have been implemented, expert consultants will then revisit each focal department to work with department members (ADVANCE

---

<sup>1</sup> Consultants’ backgrounds include training in *action research*—a method of inquiry (data collection, analysis, and dissemination of findings) that brings research participants more directly into the research process as “insiders” whose everyday understandings of their own work environments serve as the primary basis for developing and implementing context-specific change strategies. Consultants also bring expertise in bodies of knowledge directly relevant to understand institutions of higher education as work organizations.

<sup>2</sup> In one case, the departmental CT Team exists more primarily as an advisory group.

<sup>3</sup> One important goal of this process is to avoid imposing change strategies that are inappropriate for a given department.

Professors, Chairs, and departmental ADVANCE Teams) to document implementation and initial outcomes and to determine which change strategies have been the most feasible and successful.

Finally, based on all components of the CT process, including (a) focus group and interview data regarding departmental structures, practices, and cultures that affect faculty success, (b) the change strategies developed in each department for addressing the concerns identified in the data analyses (and targeted by departments), and (c) the outcomes associated with each department's efforts to reduce barriers to faculty and departmental success, social science researchers in consultation with focal department ADVANCE Professors and department Chairs work to develop sets of work climate "assessment tools." These assessment tools will be of tremendous help to department Chairs and other faculty leaders in their efforts to identify potential (or actual) barriers to departmental and faculty success that are grounded in cultures, practices, and structures of departmental work settings. For administrators and faculty leaders who seek to enhance organizational effectiveness and work productivity, these assessment tools will help to maximize the likelihood that potential barriers can be identified and addressed before they mature.<sup>4</sup> Because the CT project is still in the early stages, the present report does not contain a full array of academic work climate assessment tools that will exist by the end of the 5-year project. Part 4 of the report does, however, provide a glimpse of what these tool sets might include.

Section Two of this report provides an overview of how interactions among university and departmental structures, practices and cultures facilitate or hinder productivity and success of departments and of individual faculty members. Previous studies conducted in large complex organizations demonstrate the interrelatedness of these forces (i.e., cultures, practices, and structures) and their collective importance to institutional change efforts (Baron and Pfeffer 1994; Ridgeway 1997). Cultures, practices, and structures as manifest in work environments also impact individuals' job satisfaction and organizational commitment.

Extant research also demonstrates that issues most apt to affect job satisfaction—such as satisfaction with pay, cohesion among colleagues, stresses from work-family balances, and quality of mentoring—influence men as well as women, and affect white faculty members as well as faculty of color. Women faculty and faculty of color, however, are often *disproportionately* affected by many of the conditions that account for low job satisfaction and low organizational commitment. Improvement of these conditions tends to create "win-win" situations for the organization and its members.

---

<sup>4</sup> For more information see Rapport, Rhona, Lotte Bailyn, Joyce K. Fletcher and Bettye H. Pruit. 2002. *Beyond Work-Family Balance: Advancing Gender Equity and Workplace Performance*. San Francisco: Jossey-Bass; and Rao, Aruna, Rieky Stuart, and David Kelleher. 1999. *Gender at Work: Organizational Change for Equality*, edited by Aruna Rao, Rieky Stuart, and David Kelleher. West Hartford, CT: Kumarian Press.

Systematic efforts to reduce such problems, which are often viewed by women faculty and faculty of color as especially important, are thus a desirable outcome for organizations seeking to attract and retain members of these groups (Ely and Meyerson 2000a, 2000b; Rapport, Bailyn, Fletcher and Pruitt 2002).

During the 2006-2007 academic year, three ISU Science, Technology, Engineering, and Mathematics (STEM) departments, Ecology, Evolution, and Organismal Biology (EEOB), Genetics, Development and Cell Biology (GDCB), and Materials Science Engineering (MSE) became the first three ISU ADVANCE focal departments. These departments volunteered to work with the ISU ADVANCE program to better understand the structures, cultures, and practices within their departments that are most likely to affect work processes and the recruitment, retention and promotion of women faculty and underrepresented faculty of color. These departments were selected, in large part, because of their willingness to contribute to achieving greater understanding of the structures, practices, and cultures most conducive to faculty success at ISU and, collectively, among STEM disciplines. Each of these departments and their department Chairs, all of whom have dedicated considerable time and attention to the ISU ADVANCE project, are to be commended for their efforts.

EEOB, GDCB, and MSE department faculty members participated in focus groups or individual interviews (or both) in spring 2007. Department Chairs of each of these three departments (as well as those selected for participation at a later date) were individually interviewed prior to the focus groups and individual faculty interviews. Focus group and interview questions focused on recruitment and retention of faculty, faculty advancement, and the quality of the work environment. Sixty-eight percent of EEOB faculty, eighty-eight percent of GDCB faculty, and eighty-two percent<sup>5</sup> of MSE faculty participated in the Spring 2007 initial data collection phase. Data from these focus groups and interviews (in addition to analyses of departmental governance documents and web sites) provided the basis for the three individual department reports prepared during Summer and Fall 2007.<sup>6</sup>

Section three of this report, which presents a synthesis of findings, utilizes data and analyses from all three first-round focal departments to present an overall view (across all three departments) of the types of obstacles to productivity and success that faculty members in STEM departments routinely face as well as elements of departmental structures, practices and cultures that helped exacerbate or reduce these obstacles. The intent of this document is not to draw comparisons among the three first-

---

<sup>5</sup> Percentage calculation does not include courtesy appointment faculty in the Materials Science Engineering department because MSE is not their primary department (and they were not among the faculty asked to participate).

<sup>6</sup> Individual department reports were written in order to provide feedback to the departments regarding those aspects of department structures, cultures, and practices that are most and least conducive to faculty members' success and to the departments' abilities to fulfill their stated missions. Individual reports are not intended for any other purpose and are confidential documents.

year departments, so no specific references to individual departments, department Chairs or faculty members are made in this report.

As noted previously, as part of the process of assessing issues of importance to each of the first round focal departments and beginning the process of developing and implementing change strategies, departmental ADVANCE Professors and their department Chairs assembled their departmental Collaborative Transformation Teams. These Teams advise and assist ADVANCE Professors in the processes of (a) discussing the department's ADVANCE report findings, (b) discussing the importance and feasibility of addressing issues identified in the department's report, (c) presenting ADVANCE report findings to the full department faculty, and (d) developing an action plan for implementing the change strategies identified by departmental faculty (including the department Chair) as most potentially beneficial (given the feasibility of implementing such changes).

Section four of this report reflects on the work led by each department's ADVANCE Professor in order to provide an initial glimpse of how the ISU Collaborative Transformation project will be used to develop assessment tools that can be used by university leaders, including department Chairs, for bridging the needs of the faculty and the needs of the institution in the areas of workplace climate, faculty productivity, and faculty recruitment, retention, and promotion. These assessment tools are intended to help those in positions of departmental, college, and university leadership identify potential problems related to work climate, recruitment, retention and promotion, and work with faculty to mobilize support for dealing with those underlying problems.

Finally, section five of this report contains a full overview of the data collection and analysis methods used in the writing of this report.

Because the ISU ADVANCE program is in the early stages of implementing the CT project (i.e., only 3 of 9 focal departments have entered this phase of the program), this report is intended to provide a preliminary overview of the project, results thus far, and change strategies. As the ISU ADVANCE CT departmental projects evolve, ISU ADVANCE will gain additional information about those aspects of departmental structures, cultures, and practices that foster faculty members' productivity and satisfaction, and aid in the recruitment highly qualified faculty of diverse backgrounds.

## 2 Overview: Structures, Practices, and Cultures

2.1. *Departmental Structures*. Departmental *structures* refer to codified and/or routine decision-making processes including governance documents, resource allocation procedures, and committee configurations; how work is coordinated and arranged; and the physical spaces and spatial proximity of faculty offices, laboratories, and classrooms. Departmental structures are similar in some key respects, but also vary by college and across departments within colleges.

University policies and guidelines create some basic uniformities across departments in terms of structures. University policies, for example, specify that department Chairs manage departmental budgets and certain kinds of resource allocations. University policies also specify such things as promotion and tenure guidelines, the academic calendar, policies regarding faculty leave (e.g., for faculty development, to care for a family member, etc.), and minimum student-to-faculty ratios for graduate and undergraduate courses. Thus, there are often aspects of departmental structures that can only be altered by first changing university structures. Obstacles to faculty success that stem from university structural constraints, where such constraints exist, are therefore noted, in this report.<sup>7</sup>

Departmental structures, as section three shows, also vary extensively among the three first-year focal departments. Some variations may be positive because the work within different academic departments may be better facilitated by certain departmental structures. Such variations are also beneficial in that they contribute to the university's collective understanding of the kinds of work configurations, decision-making processes, and spatial arrangements that contribute most to the university's mission and that best enable the university to adapt to changes in higher education.

Additionally, department structures evolve over time and are comprised of elements that may not be easily transferred from one department to another. This is due, in part, to the fact that department structures interact with departmental cultures and practices to produce the overall departmental work environment. That which makes the structural elements of one department conducive to faculty productivity and satisfaction, may therefore depend on the culture and/or the normative practices of that department.

Findings from the first three focal departments show that departmental structural constraints to faculty productivity and success also may be attenuated by certain departmental practices and/or cultures. For example, the physical proximity of offices, laboratories, and classrooms was shown to affect faculty members' abilities to do their

---

<sup>7</sup> Also important to acknowledge are those constraints imposed on the university by the state legislature and/or the state Board of Regents, including constraints on resource allocations and policy changes.

best work and how satisfied they were with that work. Spatial dispersion of faculty work spaces affects the success of collective faculty outcomes such as mentoring relationships, collaborations, faculty self-governance processes, and the ability of faculty members to get to know each other.

Some departments will be able to avoid or overcome this barrier by physically locating work spaces in closer proximity. But for other departments, especially those for whom the physical relocation of work spaces is not feasible, establishing routine practices that effectively create greater temporal overlap and interaction opportunities among faculty members may be necessary in order to overcome structural obstacles to work productivity and satisfaction.<sup>8</sup>

In short, understanding *how* elements of departmental structures interact with departmental cultures and practices, and how these in turn affect faculty and departmental success—including successes with recruitment, retention and promotion of women faculty—requires paying careful attention to all three of the elements (structures, cultures, practices). Departmental structures shape many different aspects of work that will, in turn, influence faculty satisfaction and success. Structures influence, for example, opportunities to collaborate, effective mentoring, and faculty involvement in departmental decision-making.

**2.2. Departmental Practices.** Departmental practices refer to the systematic (i.e., not individually personalized) actions in which faculty members generally engage. Practices include things faculty members routinely do and say. Common departmental practices may include, for example, starting faculty meetings with “the good of the order,” faculty members entering and exiting from faculty meetings at times other than the designated start and ending times, and faculty members routinely interrupting one another during faculty meeting discussions. Practices such as these may become so customary that faculty members think of them as “normal.” Not all such practices, however, are conducive to the overall success of the department or its constituent members.

Departmental practices are shaped by and help shape department structures. Changes in departmental practice thus often result from changes in departmental structures. Changes in faculty members’ practices may also lead to changes in departmental structures. For example, policies and guidelines that are routinely violated are sometimes reassessed and altered because they are outdated or fail to support effective work practices (e.g., scheduling meetings at a time when many faculty are unable to attend due to family responsibilities may have resulted in low attendance; meeting schedules may then be reassessed and changed). In other cases, administrators deliberately implement structural changes in order to transform ineffective work practices

---

<sup>8</sup> For example, practices such as holding regular faculty meetings, social hours, seminars, and increased participation of faculty on departmental committees (and nurturing a departmental culture that values such participation).

(e.g., ISU's implementation of a formal mentoring program as an effort to ensure more effective mentoring practices for tenure track Assistant professors).

Findings from the first three focal departments show that many of the routine practices exercised within these departments are already conducive to faculty success. Findings also show, however, that some of the routine practices exercised within each department are *not* conducive to faculty success. These variations are explained in detail in each departmental report. Findings also show that the existence of certain kinds of systematic practices posed similar kinds of obstacles to faculty across all three departments. For example, the lower the levels of social interaction among departmental faculty, the more likely Assistant professors were to report that they had not received adequate mentoring.<sup>9</sup>

Creating practices (and structures) that increase faculty success also requires understanding the culture of each department. Departmental cultures may, for example, place greater value on some practices and structures than others.

2.3. ***Departmental Culture.*** Department cultures are comprised of the prevailing values, norms, assumptions and widely recognizable symbols of departmental members and their activities. Organizational research demonstrates that workplace culture shapes how organizational members feel about and respond to organizational initiatives (e.g., new workplace policies) and plays a vital role in systematic organizational change efforts.

A department, for example, might place significant value on blending faculty work activities and social activities (e.g., social gatherings at faculty members' homes or restaurants). Participation in these activities may then become normative among many or most of the faculty.<sup>10</sup> Over time, individual faculty members may then come to assume that these social gatherings will or should occur regularly, and others outside the department may come to view the department as "highly sociable."

Department cultures are often resistant to change. People grow accustomed to the values, norms, assumptions and symbols that already characterize their work environment, and familiarity with elements of existing workplace cultures provides predictability. This does not mean, however, that all members of a given department are satisfied with existing departmental cultures or that they would not like for some aspects of department culture to change. Faculty members often recognize the difficulty of changing department culture while at the same time being supportive of change. Department members are perhaps most apt to support changes in departmental cultures

---

<sup>9</sup> Though associate professors also were careful to explain that in their departments there are associate and full professors in their departments who work hard to be good mentors and who succeed in these efforts.

<sup>10</sup> This does not mean that every member of the department participates frequently in social activities, but rather that every member is likely to recognize that these activities are common.

that reduce obstacles to their own success. But their willingness to publicly support such efforts will also depend on whether a large proportion of their colleagues also embrace the proposed changes.

For example, findings from the first three focal departments show that one element of culture that all of the departments share (to varying degrees) is the assumption that tenured associate professors do not need to be told what the criteria for promotion to full professor are or when the time is right to go up for full professor (see section 3.3, pp. 12-14). Focus group and interview data indicate that full professors commonly assumed that tenured associate professors should know already—or at least be able to figure out—the criteria for promotion to full professor. More specifically, many full professors and some associate professors explained that this is so because autonomy and academic freedom are essential to the success of individual faculty members and to the institution as a whole, and because each faculty member’s contribution to scientific knowledge is so unique, no one can determine for a single associate professor exactly what she or he will need to have accomplished in order to be promoted to full rank.

On the same topic, many tenured associate professors explained that because they understood the cultural assumption that they should already know what they would need to have accomplished in order to be promoted to full professor, they were hesitant to ask senior colleagues in their own departments questions about criteria for promotion or about the process of submitting one’s dossier for promotion to full. Many of these associate professors noted also that they often sought feedback from colleagues *outside the university* about the criteria and process for being promoted to full, and would prefer that their departmental cultures be more supportive of mentoring for associate professors. Associate professors also expressed interest in establishing practices or programs that provide examples of recent successful promotion-to-full-professor dossiers.

The interrelatedness of structures, practices and cultures is evident in each of the major findings presented below. The development of strategies for addressing the issues identified in the major findings will require paying careful attention to how these three factors interact with one another.

### 3 Synthesis of Findings (2006-2007)

3.1. *Spatial proximity and facilities issues.* The dispersion of departmental faculty across many buildings or separate building locations (e.g., floors) hinders, but does not make impossible:

- the development of intellectual community among departmental members;
- the mentoring of faculty; the integration of new faculty into the work culture of the department (e.g., learning department norms regarding teaching, service, advising graduate students, etc.);
- the sharing of information about faculty hiring, tenure, and promotion processes; colleagues' research; colleagues' teaching innovations; and colleagues' levels and types of service to the department and university; and
- faculty members' abilities to develop collegial relationships that foster a sense of support and collaboration among faculty.

Mechanisms for ensuring that departmental faculty, particularly in widely dispersed departments, gather as a group on a regular basis are necessary for the development of intellectual community and help foster mentoring, collaborations, and information-sharing among faculty members. Findings also revealed, however, that the dispersion of departmental faculty members' offices and labs across multiple buildings (or floors within a building) is viewed by a small number of faculty members as a non-issue that is neither helpful nor harmful in terms of the departments' successes and their own job satisfaction, career success, and commitment to the university. This minority of faculty members placed great emphasis on individual successes and contributions while deemphasizing the importance of contributing to the collective success of the department, a strategy that is consistent with the reward structures of research-intensive universities.

Department Chairs and faculty across departments noted that in addition to the dispersion of faculty across buildings, variation in the quality of assigned lab and office spaces affects some faculty members' abilities to do their best work and can affect departments' abilities to attract and retain faculty. Chairs and faculty members also expressed considerable awareness of the university's efforts to overcome these problems. As indicated further in the points that follow, spatial arrangements can exacerbate other obstacles to faculty success, some of which are especially salient for women and faculty of color (see especially 3.3).

3.2. *Gaps between stated or assumed departmental ideals and actual practices.* Gaps between stated departmental ideals regarding the sharing of teaching and departmental service work and actual departmental practices was associated with dissatisfaction among faculty who carried what they viewed as disproportionately greater

shares of teaching and service work. Similarly, stated norms of rewarding highly productive (i.e., research, teaching, and outreach productivity) faculty members created dissatisfaction when levels of scholarly faculty productivity did not appear to be reflected in actual salary adjustments or in cumulative patterns of salary inequities.

Faculty members' uncertainties about the average levels of service work and teaching investment per faculty member within each department, and lack of information about procedures used to determine faculty work distributions, also were sources of frustration for many. This was especially true when faculty members perceived clear gaps between the value the department claimed to place on an ideal and the proportion of faculty consistently living up to the stated ideal (e.g., the ideal that all faculty members "pull their own weight.").

Faculty members and department Chairs also noted as a source of frustration gaps between faculty members' expected salary levels and actual salaries. These gaps exist for a variety of reasons, not all of which were well understood by faculty within the departments. Some salary disparities among comparatively high achieving faculty members have resulted, for example, from departmental mergers. When faculty from previously separate departments are combined into one, salary gaps between similarly accomplished individuals are more likely to be noticed and to be viewed as unacceptable. Chairs as well as faculty members expressed frustration over the lack of resources to remedy fully these inherited salary disparities.

Gaps also exist as a result of individual faculty members' lack of information about the salaries of comparable peers. Often, unless the negatively affected faculty member notes these discrepancies and seeks additional compensation, the salary discrepancies grow through, for example, salary compression and the university-wide practice of calculating salary adjustments as percentages of the current salary. Finally, salary gaps also arise from external labor market forces such as retention offers made to faculty members with job offers from other institutions. Retention packages typically are extended only to the individual securing the external offer and not to comparably qualified and accomplished faculty members in the department, thus creating the potential for salary disparities among similarly accomplished individuals.

The faculty members who reported dissatisfaction with existing compensation disparities (for one or several of the reasons outlined above) were most often those who were directly affected by the disparities and who discovered the situation only after the disparities became cumulative and firmly entrenched. Some faculty members, for example, learned that their salaries were lower than those of comparable peers (i.e., in terms of rank, grant awards, publications, and other scholarly achievements) only after the events creating the gap had already occurred. In many cases, these events had occurred many years prior. Similarly, faculty members learned of service and teaching

assignment disparities only after they had already undertaken teaching and/or service responsibilities that other departmental colleagues (they eventually learned) had declined.

The faculty members least likely to express dissatisfaction about the disparities outlined above were individuals who were unaware of disparities, who knew about them but believed that the specific disparities were justified, who were satisfied with existing gaps, and/or who decided that such disparities were *necessary*. Faculty members who voiced the last perspective maintained, for example, that such gaps are inevitable because of market forces, and that salary differences among faculty members appropriately reflected individuals' relative successes in negotiating for additional resources or higher compensation. Some of the faculty members who expressed little or no dissatisfaction about gaps between stated departmental ideals and actual practices suggested also that creating greater departmental transparency would be too time consuming.

Some faculty respondents (a minority) also noted what they saw as contradictions between ISU's stated commitment to teaching excellence and a system of faculty evaluation (merit as well as promotion and tenure) that assigns less value to teaching excellence. These tenured and tenure track faculty members explained that the criteria by which teaching "excellence" is assessed in their departments are vague. These faculty members also expressed their belief that a record of high quality teaching, however sincerely or insincerely valued in their departments, would contribute little to the advancement of their own academic careers or to increases in compensation.

**3.3 *Mentoring of Assistant and Associate professors.*** Faculty consistently noted the key role of the department Chair in aiding Assistant and Associate professors' understanding of expectations for tenure and/or promotion and in lending support to faculty members during promotion and tenure processes. Some faculty members also noted that whereas they were not always comfortable with seeking out full professors in their departments to ask questions about when they ought to seek promotion to full professor rank, they did at times seek the assistance of their department Chair.

In terms of mentoring their colleagues, faculty members were involved to some degree (or believed that faculty members should be involved) in providing advice, perspectives, and support to *Assistant* professors regarding promotion and tenure processes; input about the development of one's research program; and feedback on grant proposals and funding sources. Faculty members generally were not involved, however, with mentoring of Associate professors with respect to promotion or career advancement (with the exception of formal post-tenure review processes), and instead regarded this the responsibility of the Chair and the individuals considering promotion to full rank.

The regularity of Assistant and Associate professors' interactions with department Chairs varied mostly by rank; Assistant professors, on average, met more regularly with Chairs. All three focal department Chairs reported meeting with their Assistant professors

at least once during the first year of the ISU ADVANCE project, and Assistant professors across the departments noted their appreciation for these discussion and informational opportunities. Faculty members also noted that associate professors may benefit from this kind of open discussion, although they regarded the decision to seek promotion to full rank as well as the preparation of an individual's case for promotion as primarily the responsibility of the faculty member seeking the promotion.

Faculty at the Assistant and Associate ranks, as well as a few full professors, explained that formal mechanisms for providing feedback to Assistant professors about their progress towards tenure and a strong departmental culture of supporting Assistant professors reduces prospective candidates' ambiguities and anxieties about tenure.

Spatial proximity, addressed in detail in section 3.1, also influenced Assistant professors' experiences with obtaining relevant information about tenure and promotion from senior colleagues. Assistant professors who had consistent and frequent opportunities to interact formally and informally with senior departmental colleagues also reported more opportunities and greater comfort in visiting with senior colleagues about promotion and tenure perspectives and other issues pertinent to academic success.

Few faculty members (across ranks in the three departments) regarded the university's existing mentoring program as sufficient for ensuring that all Assistant or Associate professors have access to information necessary to navigate tenure and promotion processes successfully, but the majority believed that the formal mentoring program is necessary (and that it functions better today than it has in the past).

As previously indicated, many Associate professors and recently promoted Full professors across departments noted few readily available opportunities to learn from Full professors what constitutes reasonable expectations of a candidate pursuing promotion to full rank. Many Associate professors also explained that they carry a large portion of the departmental service work and that this hinders their ability to devote time to research and to seeking external funding. Some also believe that this, in turn, affects their progress towards promotion to Full professor. It is not clear whether mechanisms for mentoring Associate professors would facilitate a more equitable distribution of service work among tenured professors, but mentoring may help Associate professors better understand what their senior colleagues believe to be an acceptable level of departmental service, and may help Associate professors identify paths to Full professorship that are more closely aligned with their own goals, achievements and contributions.

Faculty of all ranks stressed the importance of mentoring programs for Assistant professors, and noted that current mentoring relationships between Assistant professors and their mentors varies considerably. Some Assistant professors (and newly tenured Associate professors) reported that they had had very good mentoring whereas others noted that mentoring—formal or informal—had been generally absent for them. Faculty

members across ranks noted an absence of formal mechanisms to ensure that designated mentors for Assistant professors provide requested information and make themselves available for specific consultations, even though formally-designated mentors receive professional development funds as a reward for this undertaking. Assistant and newly tenured associate professors note also that committed mentors exist in every department, but also that they often perceive these individuals to be over-extended (in terms of mentoring) and may hesitate to approach them.

**3.4. *Influence of rank on faculty participation in departmental discussions and decision-making processes.*** Faculty members in all three focal departments described as part of their department's culture the assumption that all tenure-track and tenured faculty were entitled to express their views freely and without repercussion in faculty discussions about governance and major decisions (e.g., hiring, curriculum, departmental service activities). Faculty of all ranks acknowledged that this ideal exists and that it *should* govern actual practices. Assistant professors were, however, less apt to believe that this ideal truly applied to them.

In general, Assistant professors were more cautious about expressing their views. This finding in itself is not surprising. Since Associate and full professors vote on Assistant professors' tenure and promotion cases, it is common for Assistant professors to worry that even inadvertently offending their senior colleagues by expressing dissenting views may influence the eventual tenure and promotion vote.

Data suggested that a similar dynamic exists in terms of individual faculty members' perceptions of risk when asking their department Chairs and other senior colleagues for support, advice, or resources. Some junior faculty (and some non-tenure track faculty and tenured associate professors) explained that they hesitated to ask senior colleagues, including department Chairs, for support, advice or resources (e.g., requesting bridge or equipment funding, lobbying for a more manageable teaching schedule, requesting an individual's feedback on a funding proposal or idea). The most common reasons these faculty members gave for not seeking support from senior colleagues were: (a) they did not want senior colleagues to conclude that they were criticizing them, the department, or current work arrangements; (b) they did not want senior colleagues to view them as less capable or less competent (i.e., unable to handle the matter on their own); and (c) they did not want senior colleagues to conclude that they were not "team players." Some tenured faculty, including full professors, expressed awareness of these sorts of dynamics (with reference to their more junior colleagues), but were less concerned about them.

**3.5. *Diversity issues and the recruitment and retention of faculty.***

General issues. Faculty members expressed support for faculty diversity in terms of race and ethnic background and gender. In these same discussions of diversity, faculty

also insisted that only excellent, highly qualified candidates should be extended offers to join their departments. The frequent juxtaposition of these two fundamental assertions regarding faculty diversity suggests that some faculty members are concerned that initiatives for recruiting and hiring faculty of color and/or women faculty may have the (unintended) consequence of compromising faculty and departmental excellence.

Developing a pool of candidates for open positions. Many faculty members, as well as department Chairs, noted that available pools of qualified women and/or people of color (especially U.S. racial and ethnic minority populations) for open faculty positions is typically very small. Many faculty members additionally suggested that, because the pool of underrepresented applicants is small, targeted efforts to recruit women and people of color into faculty positions would necessarily entail extending telephone and/or on-campus interviews to women and people of color who are regarded as less qualified for the advertised position and less qualified than applicants outside these groups who are in the same candidate pool.

As a result of this pattern of reasoning, faculty tended to support recruitment efforts that are aimed at attracting a higher number of qualified applicants for faculty positions, and expressed confidence that the higher the number of qualified applicants, the more likely it is that the initial pool will contain qualified women and people of color.

Although some faculty members noted that departmental search committees had at times posted job announcements or position descriptions with targeted newsletters and organizations aimed specifically at women and people of color, norms within the departments mostly emphasized utilizing the sets of existing faculty networks to build candidate pools. Faculty noted that this approach had been a reliable strategy for identifying excellent candidates for prior faculty positions. The departments' efforts to increase the overall size of candidate pools via faculty members' professional networks are commendable. In addition, these departments—like all other academic departments—would benefit from the use of strategies to identify precisely those highly qualified candidates who are *not* associated already with faculty members' existing colleague networks. Previous research demonstrates that use of existing organizational members' networks alone results in “homosocial reproduction”—i.e., the reproduction of existing organizational demographics (Baron 1984; Baron and Pfeffer 1994; Elliot and Smith 2004; Kanter 1977; Tang 2003; Tolbert and Oberfield 1991). Thus, when recruitment from social groups unlike those already represented in the university is desired, alternative strategies are needed.

Evaluating candidate applications and evaluating on-campus interviewees. Practices for evaluating applications for faculty positions were similar in that departments appointed a subset of their faculty to serve as a search committee charged with completing initial assessments of the applications and developing a list of top candidates. Practices differ, however, with respect to levels of participation by other departmental

faculty members in the review and evaluation of applications at various stages of screening processes. In some cases, non-tenure track and tenure track faculty members provided their assessments of faculty candidates for tenure track as well as non-tenure track positions. For some departments, past practices have included the routine adoption of search committees' short lists as the department's final short lists. In other departments, the committee's list is regarded instead as a recommendation to the Chair and the rest of the faculty. In these latter cases, faculty members or the Chair may request that candidates previously ruled out by the search committee be reconsidered. Each of these variations was viewed by faculty within their respective departments as an acceptable process for conducting initial evaluations of applicants for faculty positions.

Data also suggest that some faculty members have concerns about current practices, all regarding criteria, for evaluating faculty applicants. The first of three principal concerns centered on the use of ill-defined reasons or criteria for re-evaluating a candidate's qualifications during faculty deliberations following on-campus interviews.

One example of this concern involves assertions that a job candidate is "just not a good scientist" without offering criteria or explanations for why this might be the case. The second concern voiced by faculty members was the practice of evaluating candidates with reference to new or different criteria (i.e., other than the advertised criteria) during faculty deliberations. Faculty members observed that new criteria were often illustrative of individual (current) faculty members' interests or research emphases rather than referencing overall department needs or referencing criteria that had been stated in the formal position description or announcement.<sup>11</sup>

The third concern was ill-defined criteria often used to determine the relative "excellence" of candidates within the pool. In addition to employing subjective and selectively applied indicators of excellence in evaluating applications or candidates, some faculty also noted that in cases in which two or more candidates appear equally strong based on their vitas and other application materials, an endorsement by a respected colleague outside of ISU can tip the balance in favor of the endorsed applicant. While these endorsements remain valuable, they may have the unintended effect of disadvantaging candidates whose advisors are not known personally or reputationally by faculty members in the department conducting the search.

Departments also vary in terms of the processes they use for ranking candidates after votes of the faculty. ISU faculty governance procedures stipulate that departmental faculty votes be used to recommend (not determine) preferred candidates to department Chairs and deans for subsequent position offers and negotiations. *How* departments and

---

<sup>11</sup> It is important also to note that none of the faculty suggested that candidates' qualifications above and beyond those required for the position should be ignored. The practice that some faculty identified as problematic was that of introducing *questionable* criteria (e.g., speculations about what kind of research a candidate *might* not be able or willing to do) into discussions about job candidates.

department Chairs go about the process of transmitting faculty input to the deans is thus up to the individual departments. Departments may develop forms for ranking candidates on which uniform criteria are used for assessing all candidates. Alternately, department practices or structures may specify that individual faculty members rank all candidates by order of preference. The presumption is that the candidate who garners the most top rankings is the candidate of choice. Some departments utilize more complex ranking procedures in efforts to minimize “gaming” (i.e., assigning low ratings to other candidates in order to enhance the likelihood that a preferred candidate’s rankings will be higher by comparison) and to maximize the likelihood of selecting the most widely acceptable candidate. Once such ranking process is the Condorcet method.<sup>12</sup>

Presenting a positive work environment during on-campus interviews. All department Chairs and a few of the faculty members in the departments noted potential links between department cultures, practices, structures and faculty recruitment efforts.<sup>13</sup> Candidates’ perceptions of the recruiting department, the college and the university community are likely to influence their subsequent decisions about whether to accept job offers at Iowa State University. Chairs and faculty noted the following as examples of the factors that candidates may take into consideration when formulating impressions of the department and the university: judgments regarding a welcoming, supportive, and cohesive department culture; awareness of issues faced by faculty of color and women faculty (e.g., a community that shares or acknowledges the importance of one’s own heritage, beliefs, and traditions); the availability of affordable and quality child care or adult care; and likelihood of appropriate career opportunities for one’s spouse or partner. Department members also suggested that the ability of a department to demonstrate a commitment to mentoring is especially important when recruiting faculty of color due to the likelihood that these candidates will have offers from universities located in areas with substantially larger communities of color.

Department Chairs, along with a sizeable proportion of faculty (though not a majority) noted similarly the likelihood that the departments’ abilities to demonstrate to job candidates that they are “family friendly” influences candidates’ decisions about whether to come to ISU. Of particular importance to faculty were: effective policies and resources for partner accommodations (including accommodations that lead to permanent

---

<sup>12</sup> The *Condorcet system* for tallying votes increases the likelihood that the candidate selected is the one viewed by the faculty as most widely acceptable. Ranking candidates under the Condorcet system involves pairing of each candidate one-on-one with each of the other candidates. The candidate who receives the most votes in the one-on-one comparisons (i.e., after pairwise tallies are completed) is the “winner.” Drawbacks to this system are that ties are possible (in which case a tie-breaker method is required), and that faculty may still rank a less preferred candidate lower than a more preferred candidate in an effort to increase the likelihood that the more preferred candidate “wins” more of the one-on-one pairings.

<sup>13</sup> Focus group and interview sessions with faculty members, and interviews with department chairs did not include specific questions about whether or how departmental cultures, practices and structures might influence job candidates’ or currently employed faculty members’ intentions to come to ISU or intentions to stay at ISU. When these issues, however, were raised by those being interviewed, facilitators used follow-up questions to prompt faculty members and chairs to explain their views.

positions), university supported childcare options, paid parental leave, part-time tenure options, and delaying (temporarily stopping) the tenure clock. Issues raised by faculty regarding these policies and practices are elaborated further in the following section.

Retaining faculty. Department Chairs and faculty members described some of the same potential links between department cultures, practices, structures and the effectiveness of faculty *retention* efforts. Department Chairs and many faculty noted that virtually the same factors that support faculty recruitment also contribute to work commitment and successful retention of faculty to ISU. Examples are departments that are welcoming and cohesive, faculty that are aware of issues faced by faculty of color and women faculty, and a community and institutional policies that enable work-life balance. Departments' abilities to provide "family friendly" workplaces, with emphasis on childcare and partner accommodations, often entail university-wide structural and policy changes. Departments can be constrained or supported by the institution in their efforts to substantially improve departmental family friendly practices and culture.

Levels of faculty awareness about family friendly policies and issues vary across and within departments. Some faculty demonstrated a sophisticated awareness of these issues and of the university's policies to address these issues. Across departments, faculty members who had never themselves contemplated a need for "family-friendly" policies such as partner accommodation, parental leave, delaying the tenure clock, or part-time tenure-track positions tended to indicate that they knew little about existing ISU policies or departmental practices. This lack of awareness poses potential problems for departments utilizing "family-friendly" policies as part of their efforts to foster faculty success and retention, because senior departmental colleagues who are unfamiliar with the policies may also be unaware of how to appropriately evaluate for promotion and/or tenure purposes the cumulative record (often, by calculating inappropriately one's "total" time on the tenure track) of faculty members who make use of these policies. Building awareness of existing policies and implications for promotion and tenure evaluation across the entire department may help reduce apprehensiveness among tenure track faculty members who may consider using the policies (and thus enable the policies to serve their intended purposes).

3.6. ***Changing attitudes towards and use of "family friendly" policies.*** Faculty who have been at ISU for at least a few years noted the increases in successful partner accommodations and the number of faculty opting to delay (temporarily stop) their tenure clocks in cases involving the birth or arrival of children or caring for family members (or for oneself in cases of illness). Although few faculty understood the provisions or implications of the ISU's new "part-time tenure" policy, most who were aware of the policy also indicated their support. Faculty on average expressed greater awareness of parental leave and child care provisions than of all other "family friendly" issues and policies. Faculty noted that family friendly policies and policy changes had been recently introduced, and most related the policies to new initiatives initiated at the upper

administrative levels of the university. At the same time, faculty who were aware of family friendly policies explained that general faculty attitudes towards the use of these policies have been slower to change. In particular, ambiguity remains over how faculty who interrupt and subsequently restart their tenure clocks for family-related reasons should be evaluated in tenure, annual salary increase, and promotion decisions.

Faculty and Chairs noted unevenness in the application and effectiveness of institutional family friendly policies. Most notably, faculty members—especially parents whose partners or spouses are also employed full time—described ISU’s parental leave provisions (at the arrival or adoption of a child) as well-meant but impractical and ISU’s provisions for childcare as woefully lacking.

Regarding parental leave, faculty explained that the current configurations of tenure-track faculty work—in light of criteria for achieving promotion and tenure—make taking time off to care for children untenable for at least four reasons. First, successful promotion and tenure cases among STEM faculty rely disproportionately on their success at obtaining grant funding for their research. However, externally- funded research comes with timelines that cannot be put on hold while a faculty member takes time away from her or his work to care for a child or an ill family member. Second, STEM faculty routinely conduct large, complex research projects that rely heavily on graduate student staffing. The faculty member must be present to supervise and direct graduate students’ efforts. Third, especially in departments where few faculty members take family leave, junior faculty who elect to take family leave face uncertainties about how their colleagues will evaluate them in subsequent tenure and promotion decisions. This concern is particularly acute in cases where one’s colleagues are assigned additional work to fill in for the faculty member who requested the family leave. Fourth, family leave requests are often considered on a case-by-case basis within the university which increases the potential for inconsistent decisions and accommodations across cases. For example, not all faculty members who are granted family leave are also provided support (funding) for the department to secure a replacement instructor.

Many faculty members expressed concerns about current ISU provisions for childcare. Faculty reported that ISU’s on-site childcare facilities are often not viable options due both to the centers’ limited enrollments and the high cost of on-site childcare.

## 4 Developing Departmental Change Strategies<sup>14</sup>

The findings presented in the previous section represent issues that were salient across the first round ADVANCE focal departments. Each issue was addressed by a significant proportion of faculty members in their discussions of factors that impact their work or that impact faculty recruitment, retention, and promotion. Addressing these issues will require the development of effective and efficient change strategies at multiple institutional levels (i.e., university-wide, college level, department level). The present section focuses on the process of creating systematic change strategies that are supported at multiple university levels. This section is organized in three parts, one that examines the relationship between the Collaborative Transformation project and broader institutional change, one that previews the assessment tools being developed for reshaping departmental structures, practices and cultures (based on issues outlined in section 3 of this report), and one that examines departmental change processes from the perspectives of departmental ADVANCE Professors.

4.1. ***Collaborative Transformation and Institutional Change.*** Most all large-scale organizational change efforts are designed and implemented by organizational leaders in a “top-down” manner. In most types of organizations this is simply the expected way of doing things. There are, however, many reasons for considering parallel strategies. The institutional change initiatives most likely to succeed are those supported from the “ground-up” and the “top-down.” When faculty members take an active role in identifying the issues that they regard as most important and applicable to them in their immediate work environment and then participate in developing strategies for addressing these issues, they are more apt to take ownership of the strategies. And when the goals of implementing new organizational policies and procedures include creating changes in what faculty members routinely do, change strategies must target both the *actual practices* in which people engage and the *workplace cultures* that support those practices (Bailyn, Fletcher and Kolb 1997; Blair-Loy and Wharton 2002). This is true whether one is crafting strategies aimed at increasing faculty productivity, increasing the recruitment, retention and promotion of women faculty and underrepresented faculty of color, or any other large-scale objective.

Time and financial constraints make soliciting input about issues such as recruitment, retention, promotion, and workplace climate from all faculty members across all departments impractical. Because administrators’ options for developing change strategies and cultivating support from faculty members for new initiatives are limited, timesaving strategies are necessary. Department Chairs, Deans, and other administrators thus routinely solicit feedback from faculty in their departments and

---

<sup>14</sup> Part 4 of this report includes contributions by Jo Anne Powell Coffman, Chuck Glatz, Kristen Constant and Jan Thompson.

colleges via many formal and informal mechanisms. And many dedicated faculty respond to these requests.

Yet, invariably, new policies, procedures and initiatives are perceived by many faculty members as “one-size fits all” strategies that are imposed rather than welcomed. Such strategies fail to resonate among faculty members who see no personal benefit in supporting new policies, believe their colleagues will dismiss or oppose the policies, or think the policies will not be enforced.

Thus, change strategies must somehow connect with the “real work” that people do (Kolb and Meyerson 1999). The ISU ADVANCE Collaborative Transformation (CT) project—designed specifically for ISU STEM departments—aims to connect with the real work that faculty members do with the kinds of change strategies that best suit STEM departments, given the issues of faculty productivity, recruitment, retention and promotion these departments routinely face. Departmental climate and faculty recruitment, retention and promotion are, of course, interrelated in that department climate influences faculty members’ satisfaction, commitment, and productivity, which in turn, affect recruitment, retention and promotion of faculty members (Callister 2006). The CT project seeks to accomplish three goals.

First, the ADVANCE CT project involves researchers working intensely with nine focal STEM departments of the course of a five year period to identify the workplace climate and faculty recruitment, retention and promotion issues that are most salient to the faculty members in each department. Second, the CT project involves ADVANCE Professors (funded part time by the NSF grant) working with faculty within their department, the department Chair and in consultation with social science researchers to develop and implement change strategies tailored to the specific needs of their department. Third, the CT project will allow researchers to learn from the 9 participating focal departments which change strategies are most effective and feasible for enhancing the STEM academic workplace climate and for enhancing the recruitment, retention and promotion of women faculty.

Thus, one of the long-term contributions resulting from this work is the development of a set of broadly applicable assessment tools that can be used by university leaders, including department Chairs, for bridging the needs of the faculty and the needs of the institution in the areas of workplace climate (as it relates to faculty productivity), and faculty recruitment, retention, and promotion. These assessment tools are intended to help those in positions of departmental, college, and university leadership to identify characteristics of potentially problematic work climates as well as recruitment, retention and promotion problems, and work with faculty to mobilize support for dealing with underlying problems before they become acute.

4.2. **Assessment Tools for Reshaping Departmental Structures, Practices and Culture.** Though some aspects of departmental structures, practices and cultures are constrained by university policies and norms, and by the actual physical structures of the buildings in which departments are located, the ADVANCE Collaborative Transformation Project results thus far indicate that there are many aspects of departmental structures, practices and cultures over which departments have control and that can be readily transformed in ways that help enhance workplace climate and recruitment, retention and promotion efforts. Below is a summary of issues outlined in section three of this report, along with key change strategies that are currently being developed by the first three ADVANCE focal departments, or that have been used in academic and non-academic professional workplaces previously to address similar issues.

Issue 1: When departmental faculty members are dispersed across multiple buildings (or floors in buildings), departmental leaders must take proactive steps to create spaces and time periods for junior faculty and tenured faculty to interact face-to-face with one another. Dispersion of faculty may impact faculty productivity, mentoring relationships, and faculty members' awareness of their colleagues' contributions to research, teaching, and service activities.

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- Department Chairs have organized informal meetings with Assistant professors to discuss issues of departmental norms, policies, tenure and promotion evaluation processes, etc.
- Department Chairs have organized more regular faculty meetings and seminars.
- Faculty members have organized regular social gatherings.
- Departments have initiated or re-emphasized retreats or other regularly scheduled meetings in which faculty members can discuss their respective research programs and realize opportunities for collaboration. (This is different from gathering to hear outside speakers or to discuss departmental concerns.)

Issue 2: When differing assumptions between departmental faculty members exist regarding the *relative value of* and *reward structures for* research, teaching, outreach and service, dissonance is likely to result among faculty members in a department. Lack of mentoring for associate professors may also contribute to gaps between stated or assumed departmental ideals and actual practices.

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- Departments are discussing strategies to document and publicly recognize especially meaningful contributions in service or teaching. For example,

departmental awards for leadership or teaching excellence may highlight major accomplishments in a manner that might be more readily recognized by faculty colleagues or external reviewers.

- CT findings suggest also that departmental faculty may benefit from the development of a departmental strategic plan—developed with wide faculty participation—that describes concretely the values placed on research, teaching, outreach and service.
- CT findings thus far suggest that when these information gaps exist, departments may benefit from sharing information regarding averages and ranges of work distributions among faculty within the department. This discussion could include information about the university, department and student committees on which departmental faculty members serve (by rank), the numbers of graduate and/or undergraduate students advised by faculty members, and the course assignments and enrollments in classes taught by faculty members.
- CT findings suggest also that University “top down” policies and practices, including but not limited to mentoring, are needed to help all faculty better understand the level and type of reward associated with the activities in which faculty members’ are routinely expected to engage.

Issue 3: When Assistant and Associate professors are unable to develop effective mentoring relationships with senior colleagues<sup>15</sup>, they are apt to be less satisfied with their work, less cognizant of department norms, less informed about department and university policies, and consequently less productive (e.g., because they are unaware of resources available to them, are unaware of the average amount of time spent by their colleagues on service and teaching tasks, etc.). Additionally, when mentoring programs for Assistant professors are not consistent and reliable, and when mentoring programs for Associate professors do not exist, the affected faculty members are less apt to be satisfied with their work—and may doubt the supportive nature of their work environment.

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- CT findings suggest similarly that departments need systematic mechanisms for enabling Assistant professors to better understand the full range of Associate and full professors’ expectations of Assistant professors for promotion and tenure. Scheduling luncheons that include the Assistant professors and the department’s executive committee, or a comparable group might be useful in this regard.
- CT findings suggest also suggest that departments need mechanisms for providing all faculty members with aggregated information about levels of faculty

---

<sup>15</sup> Some Associate and Full professors explained that not all Assistant professors desire to have a mentor. Note, however, that Assistant and Associate professors who noted the need for more consistent and supportive mentoring also expressed a desire for mentoring. Findings presented here are not intended to suggest that mentoring should be imposed on faculty members who do not want it.

- productivity in terms of external outreach, teaching, external funding, and service to the department, college and university, teaching, grants, extension work, and research (publications, patents, etc.). This information could be assembled from faculty members' annual reports and would enable faculty members gain a better sense of their own viability of a promotion bid.
- CT findings suggest that in departments with faculty members widely dispersed on campus, conscious efforts from tenured faculty to structure opportunities for interactions between Assistant professors and formal and informal mentors may enable untenured tenure-track faculty to approach a number of senior colleagues to discuss tenure and promotion-related information.
  - CT findings suggest that faculty would benefit from the establishment of practices that require both members of formal mentoring pairs (mentors and mentees) to participate together in workshops about best practices, and practices that ensure accountability of mentoring, for instance by reporting to their Chair. And as noted below, mentoring resources at the College and University level could best foster successful practices in the departments.
  - CT findings suggest that Assistant and Associate professors in the focal departments as well those across the university would benefit from a university-wide discussion about how to revamp the university's faculty mentoring program, including a discussion of mentoring for Associate professors, and a discussion of the relative value and rewards to be attached to teaching, research, and outreach (and/or "service").
  - CT findings suggest that departments may benefit from general discussions about how to balance the need for clear tenure and promotion criteria with the need for flexibility in supporting the full range of scholarship and achievement, including innovative research that may depart significantly from traditional research products (e.g., interdisciplinary research and outreach).

Issue 4: When department ideals suggest that all faculty, regardless of rank, are equally entitled to express individual opinions about self-governance, hiring decisions, teaching and other departmental issues, but some faculty members perceive or experience negative repercussions for taking unpopular stances that differ from other faculty members in the department, faculty members who fear negative repercussions are less likely to express their views and departments are less likely to benefit from hearing a wider range of opinions and perspectives.

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- Departments are discussing the potential benefits of explaining and reiterating best practices (e.g., at the beginning of each semester) for ensuring that less assertive faculty members' voices be included in faculty discussions. One example is for department chairs to proactively explain to the faculty at a faculty

meeting the importance of active listening, how to respectfully disagree, and how to avoid monopolizing discussions.

- CT findings suggest also that departments may benefit from posting “best practices” (for listening, debating respectfully and non-judgementally, etc.) in regular faculty meeting rooms to help remind faculty members of best practices.
- CT findings suggest also that departments may want to consider appointing a process monitor to ensure chances for participation of all.
- Recognizing that Assistant Professors may have unique perspectives on an issue and might be reluctant to discuss their experiences or opinions among the full faculty, Chairs have asked one or more representatives of the junior faculty for confidential input.
- CT findings suggest also that faculty could benefit from skills development in running meetings with faculty; such skills could be used with students (research groups) also.
- CT findings suggest that secret ballots may help increase freedom of expression when topics are controversial.

Issue 5a: When faculty members perceive “diversity” to be disconnected from “excellence,” or “diversity” as associated with lowering standards in faculty recruitment processes, faculty members are more apt to view resist initiatives aimed at increasing faculty “diversity.”

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- Departments have begun to discuss diversity as a requisite part of a strategic plan for achieving and maintaining excellence. In this context, departmental leadership has called attention to scholarship that documents the positive impact of diversity on organizational effectiveness. Further, departments are recognizing that the demographics of the academic talent pool are changing, and plans for sustaining nationally recognized excellence must include the ability to recruit and retain the full range of potential applicants..
- CT findings suggest also that departments may increase the likelihood of appropriately assessing candidates’ qualifications benefit by the explicit use of agreed upon evaluation criteria, consciously monitoring discussions to ensure observations about faculty candidates are supportable by the evidence; and allowing enough time for faculty to sufficiently consider the each candidate’s credentials.

Issue 5b: When available job pools of qualified women faculty and/or underrepresented faculty of color are small, targeted, ongoing efforts to recruit women and people of color into faculty positions are required.

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- Departmental faculty are discussing strategies including inviting as seminar presenters women and persons of color who are post-docs and graduate students at universities known to graduate and attract (as post-docs) higher proportions of women and people of color. Using these advance identification and targeting strategies will help departments expand candidate pools directly or indirectly when faculty positions subsequently become available.
- CT findings suggest that departments may benefit from presentations that highlight studies about unintentional bias problems associated with the recruitment and evaluation of women candidates and candidates of color (and how these issues differ from “pipeline” issues).
- CT findings suggest departments may benefit from gathering additional information about women and people of color whose applications may be ranked lower than others because they and/or their advisor are unknown within the department.
- CT findings suggest that departments may benefit from other existing resources including Professional associations, newsletters, academic programs nationally known for graduating high proportions of PhDs who are women and/or people of color, and data bases listing women and persons of color with graduate degrees in the targeted fields (e.g., Rice University data base: <http://advance.rice.edu/database/>).<sup>16</sup>

Issue 5c: When ill-defined reasons or criteria for (re)evaluating job candidates’ qualifications arise during faculty deliberations subsequent to on-campus interviews, departments enhance the likelihood of reproducing current departmental demographics and unintentionally disadvantaging candidates whose advisors are not known personally or reputationally by faculty members in the department conducting the search. Also, in the absence of consistent, systematic and unbiased procedures for ranking candidates, the same biases may apply.

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- Departmental use of uniform candidate forms for evaluating candidates that include a list of the criteria in the position announcement/job description and the weight placed on each criterion help minimize the potential effects of unintended bias.

---

<sup>16</sup> ISU ADVANCE Equity Advisors (Chuck Glatz, Lisa Larsen, and Janette Thompson), the ISU ADVANCE Director (Bonnie Bowen), and Associate Provost Susan Carlson (ISU ADVANCE PI) may be contacted for further information about these strategies.

- Departmental use of ranking procedures that maximize the likelihood of selecting the most widely acceptable candidate and that minimize “gaming” (i.e., assigning low ratings to candidates in order to enhance the likelihood that a preferred candidate’s rankings will be higher by comparison).<sup>17</sup>
- CT findings suggest that departments could minimize the potential effects of unintended biases by holding a faculty and/or search committee discussion of the hiring criteria prior to submitting the notice of vacancy and advertising the position.
- CT findings suggest that departmental selection committees and faculty discussions of each candidate’s (or short list of candidates’) strengths as well as weaknesses would help minimize the potential effects of unintended biases.

Issue 5d: Departmental cultures and practices that fail to include the following harm/hinder *recruitment* efforts—especially the recruitment of women faculty and faculty of color:

- Cohesion among faculty members and vibrancy of intellectual community.
- Support for Assistant professors (e.g., mentoring).
- Faculty awareness of issues faced by women faculty and faculty of color.
- The availability of affordable and quality child care or adult care.
- Possible career opportunities for a job candidate’s spouse or partner.
- Awareness of other “family friendly” policies and how effective they are (paid parental leave, part-time tenure options, and delaying the tenure clock).

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- CT findings suggest that cohesion among faculty members and vibrancy of intellectual community enhances faculty recruitment success.
- CT findings suggest that emphasizing support for Assistant professors (e.g., mentoring) enhances faculty recruitment success.
- CT findings suggest that faculty awareness of issues faced by women faculty and faculty of color enhances faculty recruitment success.
- CT findings suggest that the availability of affordable and quality child care or adult care enhances faculty recruitment success.
- CT findings suggest that university support for career opportunities for a job candidate’s spouse or partner enhances faculty recruitment success.

---

<sup>17</sup> See explanation of the *Condorcet system* under footnotes listed in section 3.5 of this report.

Issue 5e: Departmental cultures and practices that fail to include the following harm/hinder *retention* efforts—especially the recruitment of women faculty and faculty of color:

- Cohesion among faculty members and vibrancy of intellectual community.
- Support for Assistant and Associate professors (e.g., mentoring).
- Faculty awareness of issues faced by women faculty and faculty of color.
- The availability of affordable and quality child care or adult care.
- Possible career opportunities for a job candidate’s spouse or partner.
- Awareness of other “family friendly” policies and how effective they are (paid parental leave, part-time tenure options, and delaying the tenure clock).

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- Faculty have begun to discuss department-level policy changes that might clarify the departments long-term commitment to its faculty and to a family-friendly workplace. One proposed departmental policy would relieve new parents from departmental teaching and service duties.
- CT findings suggest that building awareness of existing part-time tenure and delaying the tenure clock policies and implications for promotion and tenure evaluation across the entire department may help reduce apprehensiveness among tenure track faculty members who may consider using the policies and thus enable the policies to serve their intended purposes—including the retention of faculty.
- CT findings suggest in addition that strategies discussed above (Issue 5d) would also enhance departmental retention efforts.

Issue 6: The greater the awareness and familiarity among departmental faculty members of existing “family friendly” policies and how these policies align with tenure and promotion decision-making processes, and the greater the efforts of the university to support “family friendly policies and those who use them, the greater the likelihood that faculty members will be able to support other faculty members who use these policies.

Strategies: In efforts to address these issues, departments have thus far implemented, or CT results suggest the desirability of, the following strategies:

- Department Chairs and mentors have advised Assistant Professors to take advantage of stop the clock policies for maternity or for medical reasons.
- Departments have discussed possibilities for developing department-specific policies for providing release time during periods of family leave. These discussions (and acknowledgement that most faculty will benefit from these

- policies at some time) help increase likelihood of department-wide understanding of such policies and support for those who use them.
- CT findings suggest also that department Chairs' expressed support for faculty members who use these policies helps other faculty members in the department understand how to evaluate the faculty member who utilizes one or more of ISU's existing family friendly policies.

4.3. ***Departmental change processes: Views from within the departments/College and University support for change.*** In the fall of 2007, the ADVANCE Professor (AP) in each of the first three designated focal departments formed a departmental transformation Team (or advisory group) in consultation with her or his department Chair. Departmental transformation Teams advise APs and assist in the processes of (a) discussing the department's ADVANCE report findings, (b) discussing the importance and feasibility of addressing issues identified in the report, (c) presenting ADVANCE report findings and departmental Collaborative Transformation Team deliberations to the rest of the faculty in their respective departments, and (d) developing an action plan for implementing the change strategies identified by departmental faculty (including the department Chair) as most potentially beneficial (given the feasibility of implementing such changes).

The action plans to be developed within each department are to be tailored to the needs of that department. The ADVANCE report developed for each department (which summarize the findings from the analyses of the focus group and interview data) provides a starting point for departmental Collaborative Transformation Teams from which to begin the process of mobilizing support for change. Among the considerations departmental CT Teams have been taking into account as they engage in the steps outlined above are:

- understanding the culture of the department and how it affects faculty members' receptiveness to change;
- understanding how the implementation of change strategies that could help address departmental climate issues or recruitment and retention issues might also help the department to meet requirements of grant agencies;
- drawing on recommendations for change that come from sources outside of the ADVANCE Project (e.g., departmental external reviews) in order to lend additional support to the findings presented in the ADVANCE reports; and
- creating an intellectual community for discussing change, and discussing the relevance of potential changes to individual faculty member's personal goals (e.g., linking diversity goals of ISU ADVANCE work in the departments to individual faculty members (or groups of faculty) grant proposals.

Also crucial to the success of the work being facilitated within focal departments by APs are each of the following:

- Equity Advisors' (EAs) work with Advance Professors (APs) and College Deans and Associate Deans to ensure that departmental change strategies are consistent with college level initiatives and goals.
- Provost Office's work with Deans, and Deans/Associate Deans' support for the initiatives of the ISU ADVANCE program.
- Workshops and networking events for deans, department Chairs, and faculty members that promote greater awareness of a range of issues such as the unintentional biases that hinder the recruitment, retention and promotion of women faculty and faculty of color (e.g., October 31, 2007 Tools for Reducing Unintentional Biases workshop, Fall 2008 workshops with Professor JoAnne Moody).
- Diversity training workshop held prior to the implementation of the CT process (with focal department Chairs, APs and one EA). This training resulted at least indirectly in all three Chairs formally and immediately sharing P&T information with Assistant professors in their respective departments—which then became positive features within the departments that respondents commented on during faculty focus groups and interviews (that were held shortly after this diversity workshop).
- Department Chairs' leadership within the departments. Focal department Chairs have taken the initiative to solicit information from Assistant professors in their respective departments about their promotion and tenure concerns. Chairs created a context in which the Assistant professors in their departments felt comfortable asking questions and receiving more detailed information.

## 5 Data Collection and Methods of Analysis

The ISU ADVANCE Collaborative Transformation model is based on the “dual agenda approach” developed and first implemented by organizational scholars in the U.S. (Rapoport, Bailyn, Fletcher and Pruitt 2002; see also Bailyn and Fletcher Bailyn, Fletcher and Kolb 1997). This approach that emphasizes both quality of work and equity also has been adopted by other NSF ADVANCE institutions. The ISU ADVANCE departmental CT process involves the collection of data from faculty members and department Chairs for use in the development of projects aimed at increasing faculty job satisfaction, commitment, and productivity and for improving the recruitment, retention and promotion of women faculty in Science, Technology, Engineering and Mathematics (STEM) fields. Departmental CT projects, which will be developed and implemented by faculty within each respective department, utilize findings from systematically collected and analyzed focus group and interview data. Projects are tailored to each department because each department’s culture, practices, and structures differ. Previous research indicates that by changing work-related practices, structures and cultures in ways that improve departmental climate, all faculty report higher levels of job satisfaction. And while women and men report higher levels of satisfaction, and women show even greater improvement than men (NSF ADVANCE PI meeting, 2007).

Members of the ISU ADVANCE Leadership Team and an external focus group facilitator (Dr. Karla Erickson, Assistant Professor of Sociology, Grinnell College, qualitative research methodologist) organized the data collection process and gathered faculty interview and focus group data from the first three selected focal departments for the ISU ADVANCE project in Fall 2006-Spring 2007. Dr. Sharon Bird and Dr. Florence Hamrick, during this same time period, also interviewed the department Chairs of the first-year (2006-07) focal departments (EEOB, GDCB, and MSE) and the six other Chairs whose departments will join the project over the next four years. Department Chairs and/or administrative assistants of the nine focal departments provided governance documents or similar collections of policies and procedures (if available). Before the interviews and focus groups began, faculty and Chairs received information about the project via presentations to their departments, a letter of invitation to participate in the project, and an informed consent document that outlined participants’ rights (as participants), issues of confidentiality, the focus of the CT data collection process, and details about whom to contact for more information or concerns regarding the project.

All faculty members in the three first-year (2006-07) focal departments were invited to participate in departmental focus groups. ADVANCE Professors in each of these departments scheduled the focus group sessions. Faculty members were informed that they could request an individual interview in lieu of participating in a focus group, or they could participate in both a focus group and an individual interview. Dr. Erickson, the external focus group facilitator, conducted a total of eleven focus group sessions. These

31

focus group sessions were organized by rank of the faculty participants in each department. Dr. Erickson and Dr. Bird conducted a total of twelve additional one-on-one interviews with faculty across the three departments. Sixty-six faculty across the three departments participated in a focus group, an interview or both. Most focus group sessions were 1.5 hours in length, though some were longer. All except two of the interviews were 1.5 hours long; one interview was two hours long and another was one hour and forty-five minutes long. The average participation rate among the faculty in the three departments was 71.5 percent. Faculty members who participated in both a focus group and an interview (N=2 across all departments) were counted only once in the calculation of the participation rates.

All interviews and focus groups were audio-recorded and then transcribed. Transcriptions yielded more than 1000 double-spaced pages of raw data in addition to the respective governance documents and notes from focal departmental web sites.

Drs. Hamrick and Bird analyzed the focus group data, interview data (including department Chair interviews), and documents during Summer 2007 using a process of open and focused coding. The process of identifying individual points is called open coding (Strauss & Corbin, 1990). Open coding in these analyses yielded between 52 and 115 concepts from a single transcript or document. Focused coding, or the combining of similar data points and development of prevailing trends and themes, was then completed (Coffey & Atkinson, 1996). Codes and patterns from the transcripts were compared to coded governance documents and research notes, allowing for triangulation and further evidence for findings. Each researcher independently coded data and identified findings. The focus group and interview data were then re-reviewed thoroughly for examples that both confirmed and contradicted prevailing views about a given issue raised in the data. In those instances where faculty identify a salient issue and have different views on the issue, the variations are reported.

ADVANCE Professors representing each department reviewed drafts of their department's report to ensure clarity and balance of the report and to maximize protection of individuals' anonymity. ADVANCE Professors' suggested changes were examined in light of the data collected and incorporated into the report where warranted.

## 6 References

- Bailyn, Lotte and Joyce K. Fletcher. 2008. "Collaborative Interactive Action Research." In *Work and Family Encyclopedia* edited by Stephen Sweet (current editor, 2008), Judi Casey (current editor, 2008), Ellen Kossek (founding editor), and Maemiscrcie Pitt-Catsoupes (founding editor). Sloan Work and Family Research Network. URL: [http://wfnetwork.bc.edu/encyclopedia\\_entry.php?id=6386&area=acad](http://wfnetwork.bc.edu/encyclopedia_entry.php?id=6386&area=acad).
- Bailyn, Lotte, Joyce K. Fletcher, and Deborah M. Kolb. 1997. "Unexpected connections: Considering employees' personal lives can revitalize your business." *Sloan Management Review* Summer:11-19.
- Baron, James N. 1984 "Organizational perspectives on stratification." In Ralph Turner (ed.), *Annual Review of Sociology*, 10: 37-69. Palo Alto, CA: Annual Reviews.
- Baron, James N. and Jeffrey Pfeffer. 1994. "The social psychology of organizations and inequality." *Social Psychology Quarterly* 57:190-209.
- Blair-Loy, Mary, and Amy S. Wharton. 2002. "Employees' Use of Work-Family Policies and the Workplace Social Context." *Social Forces* 80:813-845.
- Callister, Ronda Roberts. 2006. "The Impact of Gender and Department Climate on Job Satisfaction and Intentions to Quit for Faculty in Science and Engineering Fields." *Journal of Technology Transfer* 31:367-375.
- Coffey, Amanda, and Paul Atkinson. 1996. *Making Sense of Qualitative Data: Complementary Research Strategies*. Thousand Oaks, CA: Sage.
- Elliot, James R. and Ryan A. Smith. 2004. "Race, Gender, and Workplace Power." *American Sociological Review* 69(3): 365-386).
- Ely, Robin J. and Debra E. Meyerson. 2000a. "Theories of Gender in Organizations: A New Approach to Organizational Analysis and Change." *Research in Organizational Behavior* 22:1-3-151.
- Ely, Robin J. and Debra E. Meyerson. 2000b. "Advancing Gender Equity in Organizations: The Challenge and Importance of Maintaining a Gender Narrative." *Organization* 7(4):589-608.
- Handelsman, Jo, Nancy Cantor, Molly Carnes, Denice Denton, Eve Fine, Barbara Grosz, Virginia Hinshaw, Cora Marett, Sue Rosser, Donna Shalala, and Jennifer Sheridan. 2005. "More Women in Science: Policy Forum." *Science* 309 (19): 1190-1191.
- Kanter, Rosabeth Moss (1977) *Men and Women of the Corporation*. New York: Basic Books.
- Kolb, Deborah M. and Debra Meyerson. 1999. "Keeping Gender in the Plot: A Case Study of the Body Shop." Pp. 129-153 in *Gender at Work: Organizational Change for Equality*, edited by Aruna Rao, Rieky Stuart, and David Kelleher. West Hartford, CT: Kumarian Press.

- Rao, Aruna, Rieky Stuart, and David Kelleher. 1999. *Gender at Work: Organizational Change for Equality*, edited by Aruna Rao, Rieky Stuart, and David Kelleher. West Hartford, CT: Kumarian Press.
- Rapoport, Rhona, Lotte Bailyn, Joyce K. Fletcher and Bettye H. Pruitt. 2002. *Beyond Work-Family Balance: Advancing Gender Equity and Workplace Performance*. San Francisco: Jossey-Bass.
- Ridgeway, Cecilia L. 1997. "Interaction and the conservation of gender inequality: Considering employment." *American Sociological Review* 62:218-235.
- Strauss, Anselm, and Juliet Corbin. 1990. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park, CA: Sage.
- Tang, Joyce. 2003. "Women Succeeding in Science in the Twentieth Century." *Sociological Forum* 18(2):325-342.
- Tolbert, Pamela S. and Alice A. Oberfield. 1991. "Sources of Organizational Demography: Faculty Sex Ratios in Colleges and Universities." *Sociology of Education* 64(4): 305-315.