Council of University of California Staff Assemblies Workforce Evolution Work Group
2005-2006 Workbook

KNOWLEDGE MANAGEMENT: Models and Program Examples

Submitted by the 2005-06 Workforce Evolution Work Group

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Knowledge Management: Models and Program Examples

EXECUTIVE SUMMARY

With over one-third of UC's current workforce eligible to retire, the University is at risk of losing critical administrative and institutional knowledge. The loss of knowledge increases inefficiencies, errors and costs. The CUCSA Workforce Evolution Work Group 2005-2006 Report, "Knowledge Transfer: Models and Programs," reviews key knowledge transfer issues and proposes strategies for knowledge management

At the highest level, a successful knowledge transfer program includes:

- Identification of critical knowledge to retain and key personnel to engage
- Selection of a knowledge transfer method with attention to diverse needs
- Application of a knowledge transfer method and support for success
- Recognition of contributions and accomplishments
- Assessment and refinement of method based upon defined measures

Talent Management
Our ability to identify and develop talent within the University is crucial to knowledge transfer. Managing talent and knowledge together leverages the organization's greatest resource: its people. Talent may be developed and knowledge shared between individuals or groups within a department, across a campus, or throughout the system. The size and breadth of the University organization presents many and varied opportunities for employee growth and development – and knowledge retention and transfer.

Knowledge Management
Knowledge can be classified as tacit (experiential) and explicit (procedural). Managing and transferring tacit knowledge is complicated and difficult. Many effective knowledge management programs seek to transform tacit knowledge to explicit knowledge through sharing and documentation. Clearly articulated metrics guide program development and refinement. We explore one metric formulated by the US Department of the Navy, identifying outcome, output and systems measures.

Customization
Knowledge transfer models may be customized to meet the needs of a local work group or the larger organization. Ideally, multiple knowledge transfer strategies may be implemented simultaneously to address the needs of a diverse workforce and maximize transfer potential.

A successful knowledge transfer program requires a shift in organizational culture, from hoarding to sharing knowledge. A change in culture may generate resistance. Often limited resources, coupled with pressing business, hinders success. However, as we become increasingly aware of the changing workforce and future risk, the urgency of retaining key knowledge becomes clear. The time to act is now.

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I. BACKGROUND

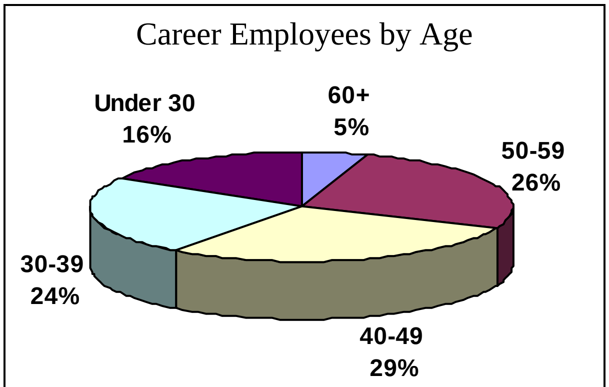
The CUCSA Workforce Evolution Work Group initiated a study of employee needs, interests and programs in 2004-2005. The group focused its early study on "the next generation of employees" in support of the Office of the President's succession planning effort. The 2004-2005 work group report provided a summary of issues identified, an overview of new employee programs, and a list of program examples.

In 2005-2006, the work group continued its collaboration with the Office of the President, exploring talent identification and development as a component of succession planning. In discussion with the organizers of the UC Senior Leadership Forum, the work group narrowed its focus to the study of knowledge transfer models, one aspect of talent development and the larger succession process.

Over the course of the year, the work group collected information on knowledge transfer. The group's findings are compiled in this report in a workbook format, with descriptions of knowledge transfer models, examples of programs (both UC and other), sample measures, and thoughts on customization. This workbook will serve as a resource for the development of knowledge transfer programs at various levels of the University organization (i.e., working group, department, campus, system).

II. TALENT IDENTIFICATION

In the face of a retiring "baby boomer" population, succession planning is an imperative. According to the *2004 Workforce Profile*, 31% of University career employees are 50 years of age or older, and 36% have 10 or more years of service.[1] Consider the following age distribution chart, presented in the *2004 Workforce Profile*.



***2004 Workforce Profile*, University of California, Office of the President, Human Resources and Benefits.**

Organizations must act now to identify and address critical and rapidly changing workforce needs. Faced with increased retirements and a growing skills shortage, it is not sufficient to focus on finding and recruiting qualified employees. Special attention must be given to the development and retention of talent within the organization.

Successful organizations view employee talent as an asset. It is less risky to focus on internal employee development than to rely on an uncertain and diminishing supply of external talent. Successful talent identification and development requires a culture shift for both managers and employees: managers need to think of high potential staff as organizational assets, rather than departmental assets; and employees must understand and embrace the knowledge and skills needed to succeed across the organization.

Standardized assessment tools are used to identify competencies and talent. The assessment instrument is the organization's tool, designed to select people in which to invest. The development instrument is the employee's tool, designed to reveal the best in a person and apply it to work.[2] In a business environment, where leadership must be grown, the most common error is "mistaking talent identification for talent development. The recognition of potential occurs at a far higher rate than the actual acceleration of readiness."[3]

For succession management to be successful, talent identification and development must be viewed as a journey not a destination. "Both involve a continuous annual process requiring ongoing commitment from top executives, human resources staff, and succession management specialists. The President is the key sponsor of these initiatives, but a senior management committee is required to steward the process at the organizational level."[4]

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[1] *2004 Workforce Profile*, University of California, Office of the President, Human Resources and Benefits.

[2] "The Four Disciplines of Sustainable Growth – The Critical Elements of a Performance Management System," *The Gallup Management Journal*, The Gallup Organization, September 26, 2002.

[3] Paese, Matthew J., "Growing Your Own Leaders: The "Acceleration" Center," *Advantage Hiring Newsletter,* August 1, 2000.

[4] Fulmer, Robert M. Fulmer, "Choose Tomorrow's Leaders Today – Succession Planning Grooms for Success," *Graziadio Business Report, Journal of Contemporary Business Practice*, Pepperdine University Graziadio School of Business and Management, Winter 2002.

Define competencies and assess candidates
Talent identification and development begins with the study of the competencies and strengths required for each position. From this study, executive agreement may be obtained on the core set of competencies needed to maintain and sustain the organization. Competencies are determined by taking into account the strategic plan of the organization and anticipating key staffing changes. Competency models offer a systematic and transparent approach to talent identification. They eliminate guesswork by providing an ongoing assessment tool for leadership development, and they reduce employee resentment because "processes are seamless and understood by the whole organization, from the bottom up."[5]

Identify talent from multiple organizational levels
"Talent pools exist at each level of the organization. Once identified, talented individuals in each pool can be broadly developed enabling them to act as utility players who can respond to challenges across a wide spectrum of business."[6]

"There are two distinct categories of high-potential employees:

- Top percentage of workforce: Middle or senior managers ready to make their way into the executive ranks.

- Top performers all levels: New managers and individual contributors identified more by their talent and drive than their track record. Identified within the first two – four years of employment and placed in the development pipeline."[7]

A cyclical, continuous identification process
The talent identification and development process must be viewed as a journey, not a destination. The high performers list is dynamic — names on the list change frequently and individuals taken off the list may be reconsidered at a later date.[8]

A successful talent identification and development program requires the active support of the organization's leadership. Leadership meets annually to identify potential high performers based on leadership competencies. Assessment and performance updates on identified individuals are provided quarterly.

Approaches to the talent identification process
Several approaches may be used to identify talent. The advantages and disadvantages of a few common methods are outlined below.

- **Replacements for key positions:** The organization identifies critical positions and potential successors, so continuity will remain regardless of vacancies. Existing position

[5] Mitchell, Bruce, "Talent Management," *Harbour Future Leaders*, 2002.
[6] Mitchell, Bruce, "Talent Management."
[7] Snipes, Jeff, "Identifying and Cultivating High-Potential Employees," *Chief Learning Officer Magazine*, MediaTec Publishing, 2002.
[8] "IRC Survey of Global Talent Management Practices – Executive Summary," *Survey of Global Talent Management Practices*, Industrial Relations Counselors - IRC, 2003.

holders are responsible for identifying the most likely and ready successor, in terms of skills and competencies. If necessary, tailored development is provided to the potential successor.

- Advantages
  - low cost, comparatively simple system
  - quickly implemented
  - job descriptions and core competencies can be used to identify potential successor
  - key posts are rapidly filled, reducing recruitment costs
  - the existing performance management process can be used to identify any required development
  - managers become accountable for succession planning
  - increased retention

- Disadvantages
  - a reactive response
  - can encourage 'cloning' – managers may not see potential in those who differ from themselves
  - could reinforce departmental silos – managers may have a narrow view of potential successors due to departmental structures
  - succession is not based on potential but on past job experience and current performance
  - identification of specific successors could be seen as unfair – lowering morale
  - employees do not own their career development

- **Self identification – open to all employees:** The organization identifies the competencies required for the manager/employee of the future. Employees interested in progression and career development are invited to take part in an assessment process. Individual career plans are developed and participants are encouraged to take responsibility for their own career growth.

  - Advantages
    - the organization defines future skills and competencies necessary for success
    - the self-selection option reduces the risk of the process being resented and labeled unfair
    - employees are empowered to take control over their careers
    - identifies a broad potential talent pool at all levels in the organization

  - Disadvantages
    - self-selected talent pool may not contain matches for identified critical posts
    - potentially high cost – the self-selection option means the organization has little control over numbers
    - managers are disengaged from the process

- **Hybrid option:** The organization communicates the succession planning process to all employees. Senior executives identify and clearly communicate the range of critical posts to be covered and the demonstrated skills and knowledge necessary for these positions. Managers also predict future job opportunities and their associated competencies. Identified skills, knowledge, and generic competencies are clearly communicated to all employees since all employees may indicate interest in identified positions. A review panel is formed to assess employee skill and knowledge readiness against critical post requirements. For these posts, the panel will identify candidates assessed as ready for emergency placement. The panel will also select high potential participants assessed against the generic senior competencies. These employees will be further assessed and supported in creating individual development plans. Any employees not selected for the succession planning process are entitled to a sensitive de-briefing and feedback. These individuals may be reconsidered at a later date.

- Advantages:
  - identifies critical positions, seeks to match successors and identifies gaps
  - identifies a broad 'talent pool'
  - transparent process communicated to all employees
  - looks to future organizational demands
  - develops a common language, measurement and assessment of competencies
  - use of a panel limits individual bias and potential for discrimination

- Disadvantages:
  - complex
  - identification of specific successors could be seen as unfair – lowering morale
  - assumes the numbers of employees included in a talent pool will need to be limited by the need to control costs[9]

Accountability
Employees at all levels of the organization are accountable for talent development.

- **Business leaders** own the system and steward the process at the organizational level.

- **Business units** carry out development activities and managers are evaluated on how successfully they nurture subordinates.[10] Employee development is an expected piece of every manager's job. Managers are involved in the talent identification process, and use assessment information for performance and advancement conversations throughout the year.

- **Human resources** creates tools to assist in talent identification and is responsible for tracking the development of candidates. Monitoring by HR tends to ensure implementation of development plans.

- **Employees** participate in the creation of a development plan and are held accountable for their local performance outcomes.

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[9] Lacey, Elaine, "Succession Planning," *Employers Organisation*.
[10] Cohn, Jeffrey M., Rakesh Khurana, and Laura Reeves, "Growing Talent as if Your Business Depended Upon It," *Harvard Business Review*, October 2005.

Preparation for advancement
Training alone is insufficient to develop leadership capacity. Assessment leads to the creation of individualized development plans involving multiple development methods.

- **Assessment process:** Confirms potential, targets development, and guides placement decisions. "Any one assessment method is insufficient to provide a comprehensive evaluation of an individual's strengths and weaknesses. When assessment tools are used in complementary fashion to measure the multiple aspects of leadership potential, maximum predictive power is attained."[11]

- **Individual development plans:** The assessment process profiles individuals based on strengths and weaknesses in relation to core competencies and future potential. Closing competency gaps is a long term process involving identifying and providing opportunities that will enhance abilities for future positions. Specific areas in need of development are pinpointed and action plans are tailored to meet individual needs.

- **Development strategies:**
    - **Organizational level -** Promotions, lateral moves, internal training, skills training, external course work, shadowing, enrichment of current job, team projects and special assignments across disciplines, divisions and geographies.

    - **Assessment level** - Use of assessment centers, personality inventories, cognitive ability tests, behavior-based interviews, and 360 surveys.

    - **Interpersonal level -** Mentoring, coaching, and participation in critical meetings.

    - **Process consistency -** High levels sign off on process steps, training for HR staff in facilitating the process, training for line managers in identification methods and performance management, and hard copy and online tools are provided.

Actual advancement
Advancement opportunities are based on knowledge, skills and abilities. Those participating in development activities are not guaranteed promotions. Individuals still compete, through a competitive recruitment process.

[11] Paese, Matthew J., "Growing Your Own Leaders: The "Acceleration" Center," *Advantage Hiring Newsletter*. August 1, 2000.

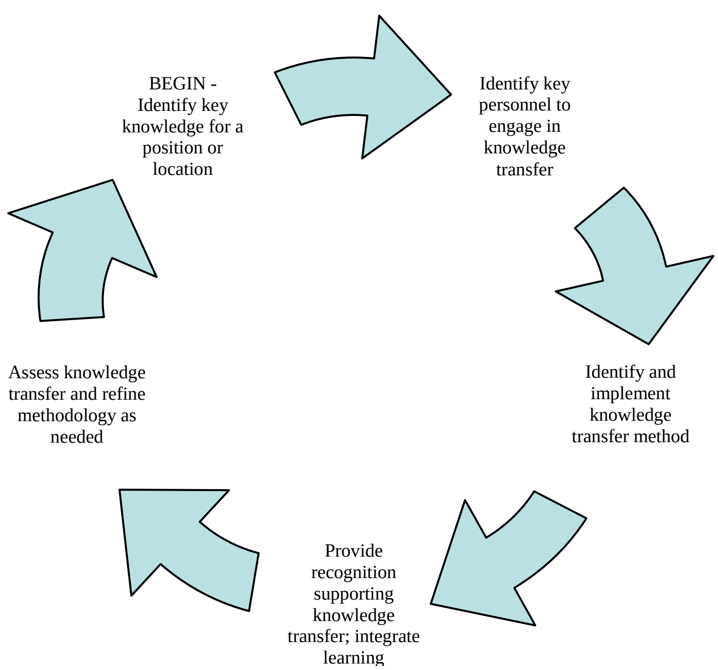
III. KNOWLEDGE TRANSFER

A key component to engaging talent is the transference of knowledge from experienced employees to new and developing employees. For this report, knowledge transfer is defined as the process by which information and insight is captured, shared, synthesized and utilized.

Organizational knowledge exists on macro and micro levels. Institutional or macro-level knowledge includes system-wide or campus-wide decisions and policies as well as UC/campus culture and UC history. Departmental and position-specific or micro-level knowledge includes local operating procedures and job duties as well as departmental culture, working procedures, processes, and key contacts.

Knowledge may also be categorized as explicit or tacit.[12] Explicit knowledge, such as facts, processes and systems – "how" things are done – is generally documented and more readily transferred. It is difficult to capture tacit or implied knowledge created through personal experience because often, tacit knowledge requires context, which the recipient of this knowledge rarely has access to. This context is the "why" behind the processes or procedures required to get a job done efficiently and effectively. Often tacit knowledge is lost when longtime employees retire or leave UC. With this loss of knowledge comes decreased efficiency coupled with increased error (e.g., lack of familiarity with the application of a policy in practice, standards for exceptions, or ability to follow procedure).

The illustration below provides an example of an approach for capturing and transferring knowledge.



[12] Osterloh and Frey, *Organization Science*, Vol. 11 No. 5, September-October pp. 538-550, 2000.

Key steps in the knowledge transfer process include:

- Identifying critical knowledge to manage
- Engaging key personnel
- Implementing a successful transfer methodology
- Providing support and recognition
- Measuring, assessing and refining process, as needed

Identifying critical knowledge to transfer
Knowledge transfer begins with a knowledge risk assessment. Ask employees at all levels, what knowledge is needed to perform a function successfully? What are we at risk of losing? What is the most efficient way to capture, articulate and transfer this knowledge? It is important to note that not all knowledge is worth retaining, for example some knowledge may grow obsolete due to advances in technology or alternatively may be outsourced to experts.

Engaging key personnel
It is critical to engage personnel in the transfer of knowledge throughout their careers, to capture both macro and micro, and explicit and tacit knowledge. The sharing of knowledge is a circular process beginning with the orientation of new employees continuing through the development of continuing employees concluding with the sharing experience of employees nearing retirement.

At this phase, we should ask who holds the knowledge needed to perform a function successfully, and who needs to receive this information to keep UC functioning properly.

Implementing a successful transfer methodology
Knowledge transfer methods range from face-to-face story telling to complex computer systems. However, large and costly programs and systems alone will not transfer knowledge. The most effective method is the informal exchange between people, built on interpersonal relationships and trust. Successful knowledge transfer methods also require leadership commitment, clear goals and measures, adequate resources and support, and recognition and rewards for achievement.

In this phase, it is crucial to recognize diversity as a key component of knowledge transfer. Through effective management of diversity at this key step, UC will be able to impact future diversity levels and will be able to ensure that UC's future workforce is representative of California's population at all levels.

Providing support and recognition
In this phase, managers, supervisors and knowledge transfer leaders need to recognize successful knowledge transfer by encouraging and rewarding employees who actively engage in knowledge transfer activities. Leaders must actively communicate the value of knowledge transfer programs and participation in those programs. Knowledge transfer programs include measures and assessments that are reflected in performance reviews and compensation. Short-term incentives, such as award programs, enhance these larger, organizational efforts.

Measuring, reassessing and refining process as needed

This is the follow-up to the process and is necessary to ensure that UC continues to effectively transfer useful and meaningful knowledge. Knowledge recipients and knowledge holders must be held accountable for successes and failures.

In this phase, we will need to assess whether knowledge is still relevant and measure the effectiveness of our transfer methodology. Flexibility in changing knowledge transfer methodologies may be necessary to facilitate diversity and to accommodate differences in learning styles, staff personalities, barriers caused by age, gender, or cultural differences.

IV. MODELS AND PROGRAM EXAMPLES

Seven knowledge transfer models are presented in this report, followed by a program example for each model. Many of the knowledge transfer models presented may be scaled in size to meet the needs of a work group, department, or campus or system-wide.

A. Orientation, general and job specific
B. Mentorship, formal and informal
C. Internship
D. Job rotation
E. After-action review
F. Communities of practice
G. Phased retirement

Most knowledge transfer models include a form of documentation: knowledge collected and shared in paper or electronic form. Policy records, program files, resource databases, and video archives are a few of the documentation methods used. However, documentation alone does not transfer knowledge from one person to another. Employee engagement is necessary and face-to-face strategies are most effective. Documentation is best used in support of personal interaction.

A. Orientation Model

Description: Orientation programs fall into two basic categories. The first may be characterized as a general orientation, covering mission, organizational structure, site and facilities, health and safety, compensation and benefits, and services and resources. General orientation activities are often conducted by human resource professionals. The second category of orientation is job specific, addressing roles, responsibilities, expectations, procedures, work environment and providing an introduction to colleagues. Most often the supervisor or manager conducts the job specific orientation.

Purpose: Orientation activities are designed to assist employees in adjusting to their job and work environment. The main objective is to provide information that will help employees understand the context and content of their work so they may perform readily and effectively.

Participants: Orientation activities are offered most often to new employees. However, employees entering new positions, at all levels, could benefit from an orientation. Orientation activities may be adapted to meet the unique needs of a diverse workforce.

Structure: Orientation activities vary in length from two hours to several days; participation may be optional or mandatory. Topics covered include –

- Overview of site
- Mission and vision
- Work culture and ethics
- Policies and procedures
- Health and safety
- Benefits, services and resources
- Groups and organizations
- Specific departmental, group or position knowledge and duties

Other orientation resources may include –

- Web channel or page with links to comprehensive resources
- Checklists for supervisors and employees
- Follow-up activities with on-site service providers
- Special events or networking groups to introduce staff to associates
- Mentoring program or “point of contact” (resource person)

Measures: Program measures assess the timing and content of the orientation, clarity and understanding of information presented, and employee satisfaction and performance following the orientation. Generally, feedback is solicited formally through a written or web-based survey.

Costs: Programs costs vary by type and size. One-on-one activities may have no direct cost. Programs at the campus or system-wide levels may have significant costs associated with policy and procedure development, and program implementation and management.

B. Orientation Program Example: UCD New Employee Orientation

Contact: Staff Development & Professional Services, (530) 752-1766, neo@ucdavis.edu.

Overview: UCD was the first UC campus to conduct a full-day orientation program. The New Employee Orientation web site, located at neo.ucdavis.edu, provides the following description –

> "New Employee Orientation provides a welcome and acculturation to [the UC Davis] campus community and explores why UC Davis is a great place to work. The full-day orientation acquaints new employees with the university mission, Principles of Community, history, culture, business practices, special events and the generous benefits package. The program includes presentations by key campus personnel and a "virtual tour" of UC Davis that covers an array of resources and important campus services. Participants will be the campus' guests for breakfast and a networking lunch. New Employee Orientation is required for all new career staff."

Key points: The content of the program is based on wide-spread consultation with constituent groups, business officers, and members of the Human Resources Committee.

Employees are encouraged to participate in orientation as soon as possible after hire; pre-enrollment is required and available on line.

The New Employee Orientation web site serves as a resource to employees beyond the orientation event. The web site includes links to assist new employees in exploring UC Davis – "…to meet the people, learn how we are organized, celebrate our history and review useful information about benefits, human resources and policies." Links include –

- Welcome
- UC Davis at Work
- UC System-wide
- Great Place to Work
- Kindred Spirits
- Getting Around
- Index
- FAQs
- Principles of Community

C. Mentorship Model

Description: Mentorship programs are intended to provide a mechanism for the transfer of knowledge from one generation of employees to the next to preserve institutional memory and to help offer professional development opportunities for both “mentees” and mentors.

Purpose: For *mentees*, the effective mentorship program is intended to reduce individual isolation, enhance career development, improve employee satisfaction, engender an environment of cooperation, aid in the improvement of technical skills, and help define career paths.

In the case of *mentors*, the program is structured to help build successful teams, identify high potential individuals, improve communication with different levels of the organization, and encourage new and innovative approaches to problem-solving.

At the *organizational level*, the mentorship program is focused on training upcoming mid-level and senior managers, promoting continuous learning throughout the organization, increasing productivity and competency, and helping to tie the organization’s purpose and vision to the daily work environment.

Participants: The mentorship program is typically a volunteer program that pairs experienced, senior level staff with junior level career staff who are interested in developing their expertise within their field of specialization and/or expanding their skill set beyond their current position.

Structure: Mentors are identified through a nomination process, while mentees simply apply to participate. Mentees are requested to contact several potential mentors to set up informational interviews. After meeting, the mentees and potential mentors separately submit their ranked matched preferences to a mentorship program committee. The committee then completes the matching process. If selected for a match, the mentor and mentee work together to establish mutually agreeable terms for the mentorship arrangement.

Measures: To be effective, the rules for participation in the mentorship program should be transparent, simple to follow, extensively communicated, and accessible to a diverse workforce. There should also be a large pool of mentors available at the outset, representing a wide variety of disciplines throughout the organization so that potential mentees may select the best match. Program goals must be clearly defined and mentor-mentee expectations spelled out. Success will depend on the extent of the support of the senior leadership of the organization, who will provide credibility and resources for the program in general and who, ideally, will participate in the program as mentors. Finally, the successful program should dovetail with the culture of the organization, in particular with those support programs already developed by human resources that identify high potential individuals and nurture their advancement.

Costs: Because the participants and members of the mentorship committee typically volunteer their time, the direct costs are minimal. For a nominal amount, administrative involvement can help support periodic gatherings to generate pairings and conduct follow-up evaluations.

D. Mentorship Program Example: UCB Mentorship Program

Contact: Paul Riofski at riofski@berkeley.edu or Terry Downs at tdowns@berkeley.edu

Overview: The mentorship program provides an opportunity for Berkeley senior campus managers to pass their knowledge of campus processes, managerial proficiency, and technical skill to developing employees in a year-long, one-on-one arrangement. This program has the effect of transferring institutional memory to a new generation of managers, developing collegial relationships across a cross section of the campus, and encouraging participants to become more fully aware of the opportunities the University has to offer for talented individuals.

Key Points: The mentorship program is a volunteer program that pairs experienced staff at a classification of Professional and Support Staff (PSS) level 5 or above with staff from the Administrative Assistant III level through PSS level 4.

During the 2004-2005 inaugural year, the mentorship pool consisted of approximately 30 potential mentors and 15 mentees. From these two groups, there were 15 pairings during the course of the year. The second cycle began in early 2006, with a six-month process to recruit mentors and complete matches. The pool for 2006 consisted of 80 potential mentors and 40 mentees, which eventually produced 40 pairings for the most recent annual cycle.

Because only one iteration of this program has been completed, the keys for measuring success have come largely from the comments of the mentors and mentees. For the latter, the primary reason for participation has been a desire to improve their career development opportunities on campus. One mentee commented that "the program has been a valuable tool in my professional growth here at the University. Having the opportunity to meet regularly with my mentor, an experienced campus administrator, provided an excellent forum to discuss career goals as well as to talk about day-to-day work issues." Mentors also benefited, as indicated by the observation that "this program gives both mentors and mentees the courage to seek new and challenging opportunities on the campus that fosters long-term career engagement and productivity."

In summary, the UCB program is designed to provide a framework in which staff members can cultivate contacts, explore challenges, and enhance their professional effectiveness as they design their personal growth and career paths at the University.

This brief overview of the Berkeley Mentorship Program and summary of the essential components is more thoroughly explored in a CUCSA Staff Mentoring Work Group Report that was produced in June 2004. It can be viewed online at http://www.ucop.edu/cucsa/documents/MentoringReport1.pdf. This document greatly elaborates on the purposes of mentoring programs in the UC system, describes the implementation of these programs at various campus locations and other institutions, and provides a number of references. Two years ago, the authors observed that "as the University of California work force ages and staff and managers retire, it is critical that workplace knowledge be passed down to the next generation of workers. Mentoring is a demonstrated method of providing such training and exporting knowledge throughout an organization." This observation rings even more true today.

E. Internship Model

Description: Internships and fellowships offer training and experiential learning opportunities. Provided by organizational leaders, volunteer managers or supervisors, and professional trainers, internships and fellowships are typically awarded to high-achieving individuals for a 6-month to 1-year period.

Purpose: The employee experiences career development growth through participation in the program, and the employer gains a talent pool with specialized skills, knowledge, and institutional expertise. Programs can also improve retention of highly performing staff committed to organizational objectives. Further, these programs build a more diverse talent pool of skilled workers better reflecting the local workforce pool.

Participants: Newly hired and career track employees (both academic and staff classifications) at all levels benefit, though programs may target classification transition points such as analyst to manager, or academic to administrative. Particular attention is paid to creating a diverse pool of applicants for positions with underrepresented applicant pools. For ensuring equal employment opportunities, the recruitment pool is enhanced through training, mentoring, orientation, and evaluation of employees identified as high-potential.

Structure: Typical models provide either rotation through positions or orientation. Implementation can be inter-departmental, intra-campus, and inter-campus. Program officers typically identify critical positions, solicit partners, design training components and evaluation, screen applicants, make assignments, identify funding, and assist with back-fill. This model is well suited to positions requiring significant UC policy and procedure knowledge in areas such as research administration, personnel, and student affairs.

Measures:

- Diverse applicant pool
- Increased number of qualified internal applicants
- Promotion of internal staff
- Retention of highly qualified career staff

Costs: Staff salary costs can be paid by hosting locations from existing salary budgets or salary savings. Alternatively, central funds can be provided (either at campus or system wide level) for meeting affirmative action goals and recruiting highly qualified candidates. Local program can have limited cost, or be funded centrally with funding subsidies for departments needing to temporarily replace interns/fellows.

F. Internship Program Example: UCSD Internship Initiative

Contact: Career Connection, 858-822-0507, http://blink.ucsd.edu/Blink/External/Topics/Policy/1,1162,1548,FF.html.

Overview: Internship opportunities created in UC San Diego hiring departments for positions typically garnering under-qualified applicant pools. Career staff compete for part-time assignments to obtain skills and knowledge for career enhancement, with the possibility of gaining a competitive edge for the permanent position when it's opened for recruitment. Interns are provided $1,000 in training funds from a central source. Throughout the program, interns are given training and career development support.

Key Points:
- 3-12 month duration, 25-50% time appointment
- Selected participates are solid performers at classification levels: AA III to Senior Analyst; Programmer Analyst II & III; and SAO I-IV
- Goal is develop and retain solid performers in targeted classifications

Measures:
- Promotion and hiring of interns in targeted positions
- Success in position as measured by performance rating

Outcome:
- Staff successfully meet permanent position requirements
- Increase pool of underrepresented candidates

G. Job Rotation Model

Description: Job rotation participants move through a variety of departments and are given assignments and training similar to that given to a new full-time employee. The program operates similar to a medical training rotation program. Administrative units are often designated as "host" departments. Some programs "hold" the participant's career position for them during training, others require the participant to resign from their position to participate. In the later case, the expectation is that the participant will apply and be accepted for a higher-level position when the training is complete.

Purpose: To effectively transfer corporate knowledge from one generation to another and to develop existing staff in a way that allows them to move upward in the organization. Specific objectives include:

- Providing a developmental experience for the participant, enhancing his/her existing skills to a level that will support upward mobility.
- Expanding the participant's professional perspective by providing exposure to the policies, procedures, and protocols of a variety of administrative offices.
- Providing participants with an understanding of the purpose, functions and skill sets of the host department.
- Allowing the host manager and staff to develop a professional working relationship with the participant in order to enhance future professional interaction.
- Assessing the participant's skill level, technique and potential for upward mobility.

Structure: Typical models are one- to two-year full-time programs in which participants leave their existing positions to engage in the training opportunity. However, a similar rotational concept can be applied in a less formal way, providing "cross-training" within or between departments. Based on the resources of a host department, one or more participants are assigned to the unit for a designated period (often 3 months) and are given training and participate in departmental activities/assignments. Participants often "shadow" managers and/or senior staff members to gain exposure to the issues and protocols effective in carrying out departmental responsibilities. Participant performance is reviewed frequently to make the learning experience valuable and to identify strengths and weaknesses.

Measures: Participant gain understanding of administrative functions through the perspective of the host unit and knowledge is effectively transferred from one generation to another. Other measures of success include, but are not limited to:

- An increased number of qualified candidates for higher-level positions
- Retention of talented career staff
- Increased morale/commitment to the organization

Cost: Participant salaries and benefits may be assumed by a central administrative office in a formal job rotation program. However, informal rotation programs can be set up where each unit is responsible for the salary and benefits of its participant. Other expenses should be limited and can be absorbed by the host units.

H. Job Rotation Program Example: CIGNA Service Emerging Leadership Program

Contact: CIGNA program information available on line at http://www.cigna.com/general/careers/service.html. CIGNA also offers rotational programs of a more specific nature, including the Financial Development Program at http://www.cigna.com/general/careers/finance.html).

Overview: The Service Emerging Leadership Program is an enterprise-wide talent management/training/knowledge transfer program operated across CIGNA, which combines comprehensive training and job rotations through many facets of CIGNA operations. Assignments will give participants exposure to a variety of operational areas including customer service, provider relations, and employer services, and is designed to prepare candidates for a future role in management. Through daily work interactions, training, and business experiences, participants develop skills in management, analysis, problem solving, negotiation, and technical and systems skills. A successful program associate will be actively involved in day-to-day operations, and will demonstrate an ability and eagerness to take on new challenges. The program will prepare participants for advancement based on ability to achieve results and business need.

Key Points:
- 2 to 3 year program, generally 12-month rotations
- Targets college graduates with business and liberal arts degrees, 3.0+ GPA
- Variety of cross-functional assignments
- Available in various U.S. cities, participants must be willing to relocate to several locations during the program

Measures:
- Promotion and hiring of program participants into permanent jobs; increased speed at which participants move up in the organization
- Reduction in the cost of filling jobs with internal candidates
- Improved retention statistics; longevity of program participants in the organization

Outcome:
- Prepares candidates for a variety of career paths available in management and business areas
- Gives talented staff an opportunity to demonstrate initiative, willingness and the ability to learn new skills
- Increases the pool of highly qualified, highly motivated applicants with an overview of company operations and philosophies
- Increases commitment to the organization

I. After-Action Review Model[13]

Description: An after-action review is a professional discussion of an event, focused on performance standards, enabling team members to discover what happened, why it happened, and how to sustain strengths and improve weakness in performance. After-action reviews are not intended to critique performance of any one individual, but rather to identify trends and patterns inhibiting the success of a team.

Purpose: To capture both explicit and tacit knowledge and provide a context for that knowledge.

Participants: After-action reviews can be used at all levels of the organization by all employees.

Structure: This framework can be formally established or may happen informally. To hold an after-action review a team should:

- Review the unit or team mission or objective for the project
- Establish the "ground truth" of what transpired by means of recap of critical events
- Explore what might have caused the actual results by focusing on one or more key issues
- Give the unit or team the opportunity to reflect on what it should learn from the review, including what they did well, what they wish to continue into the future, and what they need to improve
- Conclude with a preview of the next mission or project and what issues might arise
- Document the review so that the knowledge gained can be used as a tool, imbedded into current processes, or retained for historical reference.

Measures:
- Increased quality, usefulness, and effectiveness of documented procedures
- Decrease in repetitive errors

Costs: Programs costs may vary by type and size, however an effective After Action Review will have little cost other than time. If this approach is used correctly, project managers and supervisors may build these meetings into their project plans or their processes.

[13] "Retaining Valuable Knowledge: Proactive Strategies to Deal with a Shifting Work Force," APQC, 2002, http.

J. After-Action Review Program Example: Xerox Connect[14]

Contact: http://www.Xerox.com

Overview: After each project at Xerox, the team or individual performs an After-Action Review to capture lessons learned. The review includes the following questions:

- What was supposed to happen?
- What actually happened?
- Why were there differences?
- What will we learn?
- What will we capture and apply?
- What will be measured?

The information from the After-Action Review is documented to retain the knowledge for future uses throughout the organization. The individuals or groups involved in the After-Action Review are able to connect the knowledge to the work and are then able to build the knowledge into the processes and procedures. In addition, these individuals are better able to use this “new” knowledge in future projects.

Key points: The overall goal of this program is to identify knowledge that will have a value to the organization and transform that knowledge from tacit to explicit knowledge, which is easier to transfer.

Xerox’s program is built into their project plans and is held after all identifiable events. In this way, Xerox is able to systematically obtain relevant information while the knowledge is still fresh in the participant’s head. Furthermore, because of the frequency and immediacy of the meetings, Xerox can apply the lessons immediately to other units or divisions.

[14] “Retaining Valuable Knowledge: Proactive Strategies to Deal with a Shifting Work Force,” APQC, 2002, http.

K. Communities of Practice Model[15]

Description: Communities of Practice are groups of people who come together to share and learn from one another face-to-face and virtually. They are held together by a common interest in a body of knowledge and are driven by a desire and need to share problems, experiences, insights, templates, tools and best practices. Communities of practice are exceptionally effective when formed by employees and structured around strategic goals.

Purpose: To capture and share tacit knowledge.

Participants: Communities of Practice may be implemented in a variety of ways. They may be informal groups networking together or may be formalized groups with shared accountability and goals.

Structure: This framework may be formally established or may happen informally.

Informal Community Structure
- Review the organization by questioning longtime employees to determine the existence of informal communities.
- Upon discovering informal group, determine whether the group's goals align with organizational strategies and goals.
- Seek employee within the group to be the leader and to serve as the liaison between executive leadership and the group.
- Assign executive sponsor to filter knowledge and provide support and broad leadership for group.

Formal Community Structure
- Look for an areas in the organization which would benefit from interaction, for example health care facilitators, employee assistance professionals, benefits officers, Education Abroad site directors, executive vice chancellors, etc.
- Identify a leader from within the group. This person must have a strong excitement for the topic and must be willing to commit to the success of the group.
- Organize a face-to-face meeting to foster relationships and build the community.
- Publicize the existence and accomplishments of the community to inform other employees and groups.
- As the community begins to capture knowledge, design a repository to store the community's knowledge so it may be disseminated across the organization. An information repository may be a knowledge base, shared web space, etc.

Measures: The effectiveness of a community can be measured once it has had time to establish itself. General measures of success include an increase in awareness and documented knowledge around the community's theme.

Costs: An effective community will have some startup costs. These costs will vary depending upon size and scope. The most expensive step is the face-to-face meetings.

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[15] "Retaining Valuable Knowledge: Proactive Strategies to Deal with a Shifting Work Force," APQC, 2002, http.

L. Communities of Practice Program Example: UC Health Care Facilitator Community

Contact: Katya Rivas, Katya.Rivas@ucop.edu.

Overview: UC Human Resources/Benefits sponsors the Health Care Facilitator (HCF) program at each UC location. This program is designed to help employees and retirees navigate UC's health insurance plans by working to resolve escalated benefit issues.

To empower the health care facilitators (HCFs), UCOP has initiated a multifaceted approach which supports the creation and maintenance of the HCF community of practice:

- HCF listserv e-mail address
  Allows HCFs, HCF assistants, and other benefit office personnel to share experience and work collaboratively to resolve complex cases.

- Review and approval of HCF created tools and resources
  Allows HCF's to use specialized knowledge to create resources and tools for the benefit of each UC location, and allows the Health and Welfare Administration to verify the accuracy of the tools used to disseminate information to employees and retirees.

- Monthly conference calls
  Allow UCOP and UC locations to quickly disseminate updates and/or information and promotes discussion of policies, procedures and improvement.

- Yearly face-to-face meetings
  Allow HCFs and HCF assistants to create personal bonds, which promote trust and knowledge sharing among the group.

- Shared Web space for storage of information
  Allows HCFs to post presentations, contact lists, approved clarification grids, internal memos, etc., so that each HCF has access to the information needed to succeed.

The current community of practice is administered by a principal analyst in the Health and Welfare Administration unit and is supported by subject matter experts as needed.

Key points: This is an example of a formal community structure, administered centrally. It is important to note that either formal or informal communities may generate desired outcomes: tacit knowledge transfer.

The goal of this community is to allow HCFs and their assistants the opportunity to learn from one another. This increases each health care facilitator's breadth of tacit knowledge and helps to train the next generation of HCFs. A by-product of this community is an increase in collaboration between the HCFs and HCF assistants, and between the HCF programs and UCOP.

M. Phased Retirement Model

Description: Phased retirement is a work option that provides employees at or nearing retirement with a transition from full-time to work to full-time retirement.

Purpose: To enable employers to retain the services of highly skilled, highly motivated employees who are at or nearing retirement. These are employees who are looking for meaningful work, flexible schedules, reduced hours, and in some cases, additional time to save for retirement and receive needed medical plan coverage.

Participants: Employees with critical skills who are at or nearing retirement. Today, three complex statutes- the tax code, the Employee Retirement Income Security Act of 1974 (ERISA) and the Age Discrimination in Employment Act (ADEA), pose impediments to formal phased retirement programs. The IRS has proposed regulations that would eliminate a number of impediments but they have not yet been formalized. http://www.irs.gov/pub/irs-tege/win05.pdf

Formal phased retirement programs in existence today are typically found in state and local governmental agencies and higher education. A 2001 survey of universities found that 27% have formal phased retirement programs for tenured faculty (Refer to January 2006 study, "Phased Retirement: Who Opts for It and Toward What End?" http://assets.aarp.org/rgcenter/econ/2006_01_retire.pdf).

Structure: Formal retirement programs are generally for a specific period of time; e.g., one to three years. The percentage of time worked may vary. Salary is pro-rated based on the percentage of time worked. The treatment of pension and benefits varies. Eligibility is not guaranteed and is typically based on a number of criteria. Examples include:

- The employee has unique and unduplicated knowledge, competencies and leadership qualities;
- The phased retirement option is practicable and workable for the position and work plan that is developed;
- The department is financially able to afford it; and
- The proposed work plan incorporates mentoring and training of new employees.

Measures: The value of a phased retirement program may be assessed by conducting a cost-benefit analysis, comparing the cost to retain an employee with the cost to recruit, hire and train a new employee.

Cost: Costs vary. In addition to salary and benefits, there is the cost to administer the program. There may be an incentive to encourage participation such as a "phased retirement supplement" (http://www.provost.utoronto.ca/English/Retirement-Information-and-Resources.html).

N. Phased Retirement Program Example: Howard Community College

Contact: Todd Allen, TAllen@howardcc.edu, Howard Community College.

Overview: Designed to provide a transition period between full-time work and retirement for faculty or staff with unique knowledge and competencies that the institutions wants to retain and transfer to a new faculty or staff person. Eligible persons move to 50% of full-time salary and are responsible for the development of a work plan that responds to the specific needs of the department.

Key Points: (Refer to policy/procedure at http://www.howardcc.edu/hr/policies/procedure_630415.htm).

Purposes: Workforce Planning, Knowledge & Competencies, Mentoring & Training
Eligibility Criteria: Full-time faculty and staff who have worked at the college full-time for at least five years, eligible to retire under one of the college's retirement programs.

Criteria:
- Unique and unduplicated knowledge, competencies and leadership qualities.
- Proposed work plan incorporate mentoring and training of new faculty and or staff.
- Phased retirement option is practicable and workable for the position and work plan.
- Opportunity for phased retirement is not guaranteed but is dependent upon the needs and resources of the institution.

Terms and conditions: Agreement, if approved, will be made between the employee and the college for a one-year contract period. There may be some circumstances in which renewal for a second and/or third year may be considered but typically the agreement will be for one year. Participants are subject to the regular performance appraisal system and are eligible for merit pay.

Retirement options and coordination: It is the responsibility of the employee to coordinate their retirement plans with their applicable retirement plan. The following options may be available:
- Delay retirement and the receipt of retirement benefits until the end of the phased retirement period.
- Initiate partial retirement benefits.
- Receive full retirement benefits subject to any income limitations of the specific retirement program.

V. METRICS AND MEASURES

As we develop and implement knowledge transfer programs, it's essential to assess whether our investment of personnel, time and money is of value. Clearly articulated metrics guide us in assessing progress and adjusting action toward a stated goal.

Assessing the transfer of knowledge is difficult given its tacit nature. To obtain a complete assessment, both qualitative and quantitative measures are needed. For example, to determine the value of a knowledge database, we would count the number of hits (i.e., times accessed) *and* we would ask the users if the data was useful (i.e., increased productivity, expedited response time, enhance consistency).

Metrics and measurement systems must be developed to address the specific knowledge transfer goals of the organization. In general, if the goal is to identify, transfer and apply knowledge, we might begin by asking:

- Have we identified the knowledge that is critical to retain and the knowledge we are at risk of losing?
- Have we identified key positions, skills and competencies that are critical to retain and the talent we are at risk of losing?
- Have we identified who possesses knowledge and who can benefit from the knowledge?
- Are the tools and systems used to capture and transfer knowledge efficient and effective (e.g., are they user-friendly and utilized)?
- Has the knowledge been transferred and applied (i.e., does the knowledge have meaning and value to the user)?

In the *Metrics Guide for Knowledge Management Initiatives*, the US Department of the Navy defines three different kinds of knowledge management (KM) metrics.[16]

> "**Outcome metrics** concern the impact of the KM project or initiative on the overall organization. They measure large-scale characteristics such as increased productivity.
>
> **Output metrics** measure characteristics at the project or task level, such as the effectiveness of lessons learned information to future operations.
>
> **Systems metrics** monitor the usefulness and responsiveness of supporting technology tools."

[16] *Metrics Guide for Knowledge Management Initiatives*, United States Department of the Navy Chief Information Officer, August 2001, cited in *Knowledge Management/Transfer: Report of the Knowledge Management/Transfer Workgroup*, New York State Department of Civil Service and Governor's Office of Employee Relations, November 2002.

Expanding on this model, we can identify the following specific measures.

- Outcome –
  - Decreased research time (e.g., searching for historical information)
  - Reduction in error related to lack of or incomplete information
  - Increased productivity for continuing employees
  - Decreased start-up time for new employees
  - Increased customer service and satisfaction (e.g., shorter response time)

- Output –
  - Consistency in policy interpretation and application (over time)
  - Application and effectiveness of lessons learned
  - Expanded talent pool (e.g., increased retention, decrease in time to recruit, increased advancement of internal candidates)

- System –
  - Number of database hits
  - Number of participants in a knowledge transfer program
  - Availability and timeliness of tool or program

Sample knowledge transfer/talent identification and development metrics
The following metrics chart presents measures tailored to assess knowledge transfer targeting talent identification and development.

Metric	Objective	Measurement
Tools, systems and programs	• Assess workforce trends: measure the stability of the PSS & MSP workforce • Define needed competencies: quantify the leadership potential • Identify knowledge and talent at risk • Identify talent to develop • Benchmark model programs • Establish systems to capture and transfer knowledge • Measure outcome, output and systems • Improve systems to meet changing needs	• Documented workforce numbers (e.g., number of PSS & MSP employees with three or more years of service vs. entire PSS and MSP headcount) • Defined leadership competencies • Identified knowledge and talent at risk • Identified talent to develop • Completed benchmark of knowledge transfer and talent development programs • Implemented knowledge transfer tools and systems, and talent identification and development programs • Completed assessment: o Use of tools and systems o Participation in programs o Value of tools, systems and programs o Outcome/output of tools, systems and programs
Employee development and advancement	• Develop career employees in identified leadership competencies • Expand career employee knowledge, skills and abilities • Support career employee growth and competitive advantage for key positions • Improve employee morale, commitment	• Number of career employees with the knowledge, skills and abilities to compete successfully for advanced positions • Number of career employees participating in and completing professional development programs • Number of employees promoted following completion of professional development programs • Increased employee satisfaction in regard to work environment, and career opportunities and access
Financial impacts	• Decrease cost of turnover, recruitment and new hire training • Maximize training and development resources • Monitor training and development Return on Investment (ROI)	• Cost of employee replacement, recruitment, training and recognition, overall and per employee • Costs compared to retention, advancements and resignations

VI. CUSTOMIZATION

Knowledge transfer models and programs come in many styles and sizes. They may be customized to meet the needs of a local work group or larger organization. Ideally, multiple knowledge transfer strategies will be leveraged to maximize the knowledge in an organization. Individual, one-on-one, strategies may target the direct transfer of knowledge, while system-wide or campus-wide initiatives may support the development of comprehensive tools and systems.

A successful knowledge transfer program requires a shift in organizational culture from one of competition, where knowledge is hoarded, to one of collaboration, where knowledge is shared. This shift will require the support of the leadership in theory and practice, tying knowledge transfer to the mission and communicating the vision to all employees. Values must be nurtured that support continual learning, sharing and collaboration. The concept and value of knowledge transfer may then be integrated at all levels of the organization from recruitment through retirement.

Organizational and technical systems will need to be created to support the exchange and documentation of knowledge (e.g., definition of roles and responsibilities, and utilization of software and audio/visual aids). A comprehensive knowledge transfer program will include rewards and incentives, as well as accountability. Visible recognition and performance appraisals should encourage mentorship, teamwork and documentation. This will require the development of managers and supervisors with the people and collaboration skills needed to support individual and work group efforts.

The models and programs presented in this report may serve as a spring board for developing a knowledge transfer program, whether between colleagues or across an organization. A list of resources follow for more in-depth study, providing detailed information on the concepts and models presented.

With the implementation of new ways of thinking, being and doing, as with all change, we anticipate resistance and obstacles. Most often limited personnel and financial resources, coupled with pressing business, limits program development. While we are fighting the fires of today, we overlook tomorrow’s smoldering embers. Yet, as we become increasingly aware of the changing workforce and the future risk, we must recognize the urgency of knowledge transfer programs and the need to capture knowledge before it is lost to maintain productivity and excellence.

The development of system-wide and campus-wide programs is generally time-consuming and costly. It may be more feasible to focus on local needs and programs. Begin by asking employees; what knowledge needs to be captured and shared; and what is the most efficient and effective method for capturing and sharing that knowledge. The tendency is to turn to technology, while the most effective systems are rooted in informal one-on-one exchanges – the creation of a mentorship relationship or the collaboration between colleagues. We might also feel the need to create a new program, while embedding knowledge transfer within existing processes would be most effective.

The knowledge transfer process may be summarized by the five key steps, defined in section III.

- Identify the critical knowledge
- Engage key personnel
- Implement a transfer methodology
- Provide support and recognition
- Measure, assess and refine the process

The practice of a circular knowledge transfer process, from identification through refinement, will create a cultural shift that actively develops talent and, in turn, strengthens the organization for the long term.

As the Workforce Evolution Work Group continues its research in support of succession planning, we will implement our own knowledge transfer process, as some members rotate off, others succeed to leadership positions, and new members join. The group will follow the five steps outlined above, with the goal to model a successful succession and knowledge transfer program. The continuing work group will coordinate and collaborate with the Office of the President on next steps in the study and practice of succession planning.

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