Abstract

Numerous studies of women faculty in science, technology, engineering, and mathematics (STEM) disciplines have described greater isolation, a lack of access to information and professional opportunities, and fewer mentors than their male counterparts. Women faculty are promoted more slowly, and are far more likely to leave an institution before gaining tenure. This paper argues that Strategic Collaboration (TM), a new, formal mentoring model that relies upon regular, focused group interaction among senior and junior faculty, rather than relying upon dyadic relationships, can be particularly beneficial for women faculty. Because Strategic Collaboration removes many of the problems inherent in traditional mentoring programs while retaining their benefits, it can serve to increase the likelihood that women faculty will be successful.
Numerous studies of women faculty in science, technology, engineering, and mathematics (STEM) disciplines have described greater isolation, a lack of access to information and professional opportunities, and fewer mentors. Women faculty are promoted more slowly than their male counterparts, and they are far more likely to leave an institution before gaining tenure. A recent study by the National Science Foundation suggests that much of the difference in outcomes between male and female faculty is attributable to women being married and having children early in their careers.

Women faculty in science, technology, engineering, and mathematics (STEM) disciplines describe a "null environment for women" where they receive little support or colleagueship on campus (Betz, 1992, 89). Rosser (1997) observes that the overwhelmingly male nature of STEM disciplines has not only afforded women limited access to participation, but it has shaped the very nature of the disciplines themselves. She notes that the physical and life sciences, for example, are neither unbiased nor value-free. Everything from what is studied to the subjects for the experiments is male-dominated. When women begin to enter a field, different questions are asked and methodological and theoretical assumptions challenged. This often leads to the trivializing of their scholarship.

Often the only women in their departments, female faculty in the STEM disciplines commonly are not part of the camaraderie that often develops among young colleagues. This can result in lack of access to information and professional opportunities (Fox, 1996). Johnsrud and Des Jarlais ‘s (1994) research reveals that faculty women report greater isolation and fewer mentors than do their male peers. Their data indicate that women tend to be promoted more slowly than their male counterparts, and they are far more likely to leave an institution before gaining tenure. The situation is even more difficult for minority women (Holland, 1989).
Mentoring

Mentoring is a process whereby a more experienced person (mentor) provides guidance, support, knowledge, and opportunities to a less experienced person (protégé) for the purpose of career advancement (2,3). When asked to reflect on their career successes, many if not most people point to mentors who helped and/or influenced them. From the point of view of organizations, mentoring can provide a mechanism for assuring the continuity of their culture, and a common set of values and expectations (4).

It is commonly believed that "true" mentoring is an inherently informal process in which mentors and protégés come together spontaneously. Successful mentoring relationships are seen as a combination of common goals, individual personalities, and a healthy dose of luck. Hence, many organizations have been reluctant to create formal programs (5). However, relying upon spontaneous mentoring can lead to perceived inequities among employees. For example, those not chosen to be mentored can resent those who are successful at finding mentors. Additionally, research indicates that mentors tend to gravitate toward younger versions of themselves. Therefore, women and minorities in companies are mentored less frequently than while males, making it more difficult for them to rise to higher-level positions within their organizations(4). Additionally, women with male mentors face the “gossip factor,” concerns that may arise when a woman and man are seen together frequently outside the office (6).

The Benefits of Mentoring

Many of those embarking on new careers have concerns about their competence, their ability to succeed, and their understanding of and ability to navigate the organizational culture in which they find themselves (7). They often feel isolated in their new milieu, and uncertain of
exactly how to fulfill their job requirements (8,9) which can ultimately lead to feelings of alienation (10). The mentoring relationship has the potential of facilitating the protégés’ successful transition into their new roles, as well as helping them understand and adapt to the organization’s culture (4,11). Mentored employees tend to have greater job satisfaction, obtain promotions more quickly, and make higher salaries than those who are not mentored (2,12,13).

Mentors can fulfill both career and psychosocial functions. By virtue of their experience and position within an organization, mentors can enhance the careers of their protégés by sponsoring them, making them visible within the organization, coaching them, protecting them, and ensuring that they are given challenging assignments where they will be noticed. If the relationship between mentor and protégé develops into one of mutual trust, the mentor can provide role modeling, acceptance, validation, counseling, and friendship (7).

Mentors, too, benefit from supporting the advancement of their junior colleagues in at least two ways. Often senior in the organization, they have the opportunity to put their knowledge, skills, and abilities to work to help others advance. Additionally, they can gain from the mentoring process as they learn new skills or perspectives from junior colleagues whose education may be more recent than theirs and whose experiences differ (7).

Some Caveats about Formal Mentoring Programs

Despite these benefits, mentoring relationships do not always produce positive results, and a number of studies have begun to reflect some concerns. The mentoring process can be seen as operating from a deficit model in which the protégés lack skills and abilities that mentors must supply. There is a tacit assumption that the protégés are deficient in some way, and that the mentor is someone who should be emulated. Mentoring relationships can also be seen as having
paternalistic overtones, carrying with them the implication that new employees are incapable of approaching senior colleagues informally for the help they need. Such a view can undermine the self-confidence and self-esteem of the protégés, especially if the image of the mentor is not one that the protégés can or would wish to emulate, making them less willing to participate (14).

As noted above, transmitting organizational culture is generally thought of as a positive mentoring outcome. However, some organizational values may already be obsolete. Mentoring also has the potential of stifling creativity and innovations within the organization by reinforcing the way things have always been done (4).

Even with a strong mentoring contract, which most formal, facilitated mentoring programs emphasize, difficulties often arise (5,11). Personality differences can doom a mentoring relationship from the outset. Failure to make the goals of the relationship clear can lead to the mentor pushing an agenda with which the protégé does not agree, leaving the protégé to feel that his/her goals have been marginalized. If the mentor chooses to leave the relationship, the protégé can be left feeling rejected and alone (15).

Mentoring programs can be time consuming, and sufficient time must be allocated for the relationship to grow and mature. Failure to do so can lead to disappointment and frustration. Mentors and protégés can find that they have very different expectations about how accessible the mentor needs to be (14,16).

Further studies have investigated other types of dysfunctional outcomes, such as mentors taking credit for and/or sabotaging their protégés’ work, sexual harassment, the expectation that the protégé will assume a submissive attitude, clashes of values, incompatible personalities, manipulative behavior, and different value systems. Such negative outcomes have caused some to question the efficacy of formal mentoring programs (17,18).
Models of Formal Mentoring Programs

Organizations that choose to create formal, facilitated mentoring programs generally utilize one of three models: grooming mentoring, networking mentoring, or a blending of grooming and networking mentoring models. All three are discussed below.

Grooming Mentoring. This traditional style of mentoring is a dyadic relationship consisting of a more experienced mentor and a less experienced protégé (19). It is the model most often employed by organizations that create formal mentoring programs. The success of this model depends upon the continued participation of both mentor and protégé.

The grooming mentoring model "is best suited to those protégés whose needs are to succeed in the institution as it now exists and those who are willing to serve an apprenticeship. Ideal grooming mentors are those who wish to pass along their skills and insights to create a new generation in their own image" (3, p. 11).

Networking mentoring. By contrast, networking mentoring is non-hierarchical, and generally involves more than two participants. This type of mentoring is egalitarian, with mentors and protégé exchanging roles as the situation requires. Hence, the approach is not limited to the mentoring of employees by their senior colleagues. Implicit in this model is the expectation that each person will contribute something to the network for the mutual benefit of all (19, 20).

The networking model is generally more flexible and less intense than the grooming mentoring model. There is less concern about whether or not the participants will be compatible over a long period of time. It is also subject to less resentment from colleagues who were not selected by an individual mentor, or from more seasoned professionals who might resent suggestions being offered by their peers or by lower ranking colleagues.
In the networking mentoring model, people from diverse backgrounds are easily incorporated into a network (19). If one or more participants choose to leave the network, there is little if any disruption to the group. In this model, when there is need for information outside the areas of expertise of the members, volunteer facilitators can be identified to access resources and provide another area of support for the group (3).

**Grooming and networking mentoring model** As described by Haring (3), this model, involves blending the two models discussed above by matching a group of newcomers with one or two more experienced employees. She argues that, if properly managed, the model would combine the strengths of the other two by promoting a strong networking relationship while still providing some of the benefits of a grooming mentoring relationship. It is this model that Strategic Collaboration seeks to modify and combine with the strengths of appreciative inquiry to create a positive support structure that offers new hires the possibility of upward mobility without employing a deficit model that has the potential of undermining the confidence of the protégé.

**Appreciative Inquiry**

Appreciative Inquiry is an approach to organizational innovation that specifically focuses on what gives life to an organization. Developed by David Cooperider (21), Appreciative Inquiry uses positive dialogue to discover stories of organizational successes, and build upon those stories to foster future success. It responds to the tradition of action research, a deficit model that views organizations as having problems in need of solution, and proposes the development of an action plan to correct the problems that are identified (22). Appreciative Inquiry rejects the positivist view that social knowledge is derived from objective observation, in favor of the social constructionist paradigm that sees reality as constructed through our social interactions (23).
The Appreciate Inquiry process reflects a set of principles drawn from current theory and research in the human and social sciences (24).

1. *The Constructionist Principle*, which depicts organizations as being invented and maintained through a process of social interaction.

2. *The Principle of Simultaneity*, which helps organizations understand that inquiry and change are simultaneous. Once an inquiry is made and a question is asked, the change process begins.

3. *The Poetic Principal*, which describes organizations as compilations of their past, present, and future, subject to a variety of interpretations.

4. *The Positive Principle*, which describes how organizations change more easily in an environment that supports and encourages innovation.

5. *The Anticipatory Principle*, which states that an organization’s potential can be anticipated through an analysis of the stories told about it by its stakeholders. This anticipation guides the organization into the future.

The Appreciative Inquiry model involves the assumption that in every organization, there is already something present that helps that social system achieve its goals. The model further assumes that the act of posing questions to a group influences that group. The language we use creates the reality, hence asking what works, rather than what does not work, will focus discussion in a way more likely to lead to positive outcomes, which will eventually become reality (25).

The 4 *D Cycle* (26,27) outlines the typical phases of the Appreciative Inquiry process. The original terms first introduced by Cooperider and Srivastva (28) are indicated by parentheses:
1. **Discovery (Initiate).** Organizational stakeholders are identified and brought together to respond to questions designed to help identify positive attributes of the organization. In pairs, the participants interview one another as they elicit stories that focus on moments of excellence within the organization. In this portion, a conscious decision is made to limit the inquiry to what is positive, rather than to analyze what is deficient. The model is to focus on the causes of success and to build upon those successes as the organization moves into the future.

2. **Dream (Inquire).** Participants analyze the positive stories and attributes to identify common themes and patterns that can be used to construct a vision of an improved organization. From these themes, they are asked to imagine a future that is grounded in these experiences of excellence … a future that is achievable.

3. **Design (Imagine).** Participants re-create the organization by developing "provocative propositions," to merge the best of what has been into visions of what the organization can become, grounded in the reality of the participants’ experiences. Proposed changes to the organization, and the new initiatives created to support those changes, are evaluated by the extent to which they move the organization in the direction of the ideal they envisioned in the Dream stage.

4. **Delivery (Innovate).** This last stage of the Appreciative Inquiry process specifically focuses on plans and actions at both the personal and organizational levels. Participants commit to the new initiatives identified in the Design phase by developing strategies based upon specific organizational needs. Examples might include changes in communication patterns, leadership, procedures, policies, roles, performance evaluation,
reward structure, employee development and mentoring, use of resources, and the development of networks to implement and evaluate the changes.

*The Strategic Collaboration Model*

This model focuses on succession planning; positioning individuals to assume increasing levels of responsibility within the organization. The design combines features of grooming and networking mentoring, discussed above (3) with elements of Appreciative Inquiry (23).

In the model shown below, a group of newcomers to the organization are matched with two more experienced employees to create a support structure that offers new hires the possibility of upward mobility.

*Strategic Collaboration Model Goes Here*

Implementation of the Strategic Collaboration model rests on the assumption that the college or university has provided support and resources for the process. As envisioned, implementing the model will require meetings of the Strategic Collaboration teams half a day each month for a period of at least a year. This is a modest time requirement given the potential benefits. Making time spent on the process part of the yearly evaluation for both junior and senior personnel is another example of the ways in which upper management can encourage such a process.

Two senior and 2-5 junior managers/executives from the same part of the organization are brought together to form a Strategic Collaboration team. The senior personnel must be outstanding performers with wide-ranging knowledge about the organization and its external environment. They must also have a desire to support and advance their junior colleagues'
careers. The junior personnel must have a commitment to advancing their careers and working with their senior colleagues to develop competencies aligned with future organizational needs.

Teams generally move through five stages: 1) forming, in which they become acquainted with one another; 2) storming, in which some disagreements about roles and procedures, as well as personality differences, surface; 3) norming, in which some sense of ownership and belonging occur; 4) performing, in which the real work of the team is accomplished; and 5) adjourning, in which the work of the team has been accomplished and the members move on (29). In order to promote a team environment and enable the Strategic Collaboration team to move successfully through the initial stages and begin performing, both senior and personnel must undergo some interpersonal skills training in active listening, communication, feedback, and managing conflict. This can be accomplished through an intensive behavior modeling session focused on the particular skills needed, affording all participants the opportunity to see the skill demonstrated and participate in role plays using the skill. For example, in a session focusing on feedback, participants would role-play an appropriate response to a problematic sales technique by learning to focus on the specific behaviors rather than on the person whose sales technique was found wanting. Similarly, in a session on managing conflict, participants would learn techniques such as using “I” rather than the more accusatory “you” language when confronting conflict. Teams that receive appropriate training develop positive strategies to resolve problems that arise, share information more easily, and support one another (29,30). These are critical elements of an environment that promotes professional development.

As is the case in a traditional facilitated mentoring environment, a contract must be developed in order to state specifically goals and objectives that the team is to accomplish, as well as the roles and responsibilities of each team member. The team must also commit to at
least one monthly meeting. The contract must also clearly state that while Strategic Collaboration is designed to prepare a talent pool for advancement, participation in a team does not guarantee promotion or advancement within the organization. There are many other factors, such as informal communication transactions, that are necessary for career success (31). However, a strong, clear contract can prevent many of the problems associated with facilitated mentoring described above (5,11).

With the team formed, the contract agreed upon, and the interpersonal skills training completed, the Strategic Collaboration process can begin. As can be seen from the Strategic Collaboration model, through each phase of the process described below, trust must continue to be built. Trust is the essential building block upon which any coaching or mentoring process rests. Being part of a career-building team means, among other things, that members make themselves vulnerable. Junior personnel must be assured that nothing they say or do during the process can or will be used against them by the senior members of the group (32).

In the Discovery, Dream, Design, and Delivery phases, the real work of the group is accomplished. Therefore, none of the phases should be rushed. Assuming monthly meetings, some phases may take one month while others may take two months or more depending upon how much conversation is generated around each topic.

The Discovery phase encourages the Strategic Collaboration team members, junior and senior personnel alike, to compile a list of strengths in the form of skills and abilities they bring to the organization that contribute to the organization's excellence. These might include statistical sophistication, facility with interpersonal communication, and experience with conflict resolution and/or negotiation. During this phase, members may discover skills and abilities that other team members possess and which they may wish to acquire. They may also come to
recognize that their strengths are valuable to other members of the team, and can and should be
shared with them. Sharing skills, abilities, and information is one way in which the team
members can increase their value to the organization and position themselves to advance.

During the Dream phase, team members assess the strengths that they identified during
the Discovery phase, and determine how those strengths can be used to build the organization's
future. This stage can be viewed as analogous to a brainstorming session in which creative ideas,
regardless of their merit or lack thereof, are considered and then accepted or rejected on a
consensus basis. For example, an individual with statistical and methodological skills might
suggest new ways of sampling and measuring the attitudes of potential consumers of the
organization’s products.

The Design phase is an opportunity for the Strategic Collaboration team members to
determine how they can leverage the strengths that have emerged through new initiatives that can
move the organization forward in the years to come. Again, drawing on the example of
statistical sophistication noted above, an individual with these skills might help identify new
marketing strategies and new consumers of the organization’s products. In order to complete
this phase successfully, some forecasting on the future needs of the organization must be
completed. Ongoing strategic planning is one source for such information.

The Delivery phase is one in which a career development action plan is developed for
each junior member of the Strategic Collaboration team. The career plan should show how each
junior member can move forward to add value to the organization at that particular point in time.
However, being a dynamic model, with a cyclical design, the Delivery phase leads, in turn, to the
Design phase where the new skills are again considered with a view toward the organization’s
future and the process begins again.
The present model is similar to that developed by Hill and Gant (33) in that it employs a team-based approach to mentoring. However, unlike Strategic Collaboration, the Hill and Gant model involves the formation of dyads and does not focus on a dynamic, cyclical process.

**The Benefits of Strategic Collaboration**

This paper argues that Strategic Collaboration retains all of the positive benefits of mentoring while avoiding the pitfalls that can plague the mentoring process. It provides a positive group of individuals, two of whom are senior to the organization, who can fulfill both the career and psychosocial functions that Kram discusses (7). They can answer questions, provide information, ease the transition into a new organizational culture, and help combat the isolation that a new environment can bring.

Since Strategic Collaboration is focused on career development, the team can function as individual mentors would by helping the junior members obtain promotions more quickly, as well as the higher salaries that come with promotion. The team also serves as sponsors, coaches, protectors should that be needed, and preparation for the junior members to be ready for challenging assignments where they will be noticed. As trust is built into the model, the Strategic Collaboration team should also be positioned to provide role modeling, acceptance, validation, counseling, and friendship (7). As in more traditional mentoring relationships, senior colleagues benefit, too, by sharing their knowledge, helping others, and by gaining a new perspective and new knowledge from both junior and senior group members.

Conversely, by virtue of its reliance on the group, rather than the individual, Strategic Collaboration does not rely upon a junior member of the organization being selected by a senior member of the organization to be mentored. Anyone who is interested in advancing his/her
career can be part of a strategic collaboration team. Hence, women and minorities have the same opportunity to be mentored as white males. In addition, women do not have to contend with the "gossip factor," since there are always be groups of people meeting. Personality differences, which can doom a mentoring relationship from the outset, are not nearly as important in this context since no one relationship is privileged over any other. Additionally, since there are two senior members in each team, each junior members benefits from having more than one perspective on a given topic.

With a strong contract, Strategic Collaboration can avoid some of the dysfunctional outcomes discussed above, such as mentors taking credit for and/or sabotaging their protégés’ work, sexual harassment, the expectation that the protégé will assume a submissive attitude, clashes of values, incompatible personalities, manipulative behavior, and/or the mentor pushing an agenda with which the protégé does not agree, leaving the protégé to feel that his/her goals have been marginalized.

Johnsrud points out that if a mentor chooses to leave the relationship and/or the organization, the protégé can be left feeling rejected and alone (15). Because Strategic Collaboration is team-focused, rather than individually focused, should one of the senior members of the Strategic Collaboration team leave the organization or choose not to participate for any reason, that person can be replaced with far fewer negative effects to the junior personnel than if a single mentor were to leave.

Perhaps most important, since anyone who qualifies can participate, Strategic Collaboration does not operate from a deficit model in which it is assumed that there are skills and abilities that protégés lack and mentors must supply, e.g., the mentoring model described by Minter and Thomas (34). Furthermore, since Strategic Collaboration is future-focused, it is far
less likely than mentoring to stifle creativity and innovation within the organization, hence reinforcing the way things have always been done.

**Conclusion**

Selecting an appropriate model for mentoring employees is critical to succession planning in organizations. By combining the strengths of mentoring and Appreciative Inquiry, the resulting Strategic Collaboration Model described in this paper retains the benefits of mentoring, while largely avoiding its challenges, allowing the participants involved in the process to remain positive and future focused. The model can be customized to a particular organization's needs, and then applied to developing their employees with a view toward ensuring that those employees will be well prepared to lead the organization into the future.


