AC 2011-2242: INTENTIONS AND EXPECTATIONS ARE NOT ENOUGH: THE REALITY OF ORGANIZATIONAL IMPROVEMENT AND MENTORING PROGRAMS

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Intentions and Expectations are not enough:
The Reality of Organizational Improvement and Mentoring Programs

Abstract

In Greek Mythology, *Mentor* was Odysseus's trusted counselor and served as a guardian and teacher to Telemachos. It is from this story that the term *Mentoring* originated. Mentoring is often defined as a way to coach and guide individuals to a successful career path and is used as a positive organizational tool. The organizations usually implement mentoring programs to promote a healthy work life and create a better outcome for organizational goals. But what happens when the traditional and stereotypical methods of mentoring are haphazardly applied to organizations and academic institutions? How do these group constructs deal with regressive, rather than progressive, mentors? How does the traditional myth of mentoring skew the perspective of mentoring and organizational improvement?

Previous literature shows that a traditional dyadic mentoring scheme is not necessarily the correct paradigm for mentoring; pairing mentors based solely on protégé gender or department do not always result in a strong mentoring pair. Mentoring cannot be used as a solution that is thrown at an organizational problem, especially issues such as climate and equity. Rather, the organization must identify its own characteristics and outcomes for organizational improvement and for its mentoring program and develop accordingly. Also, research has shown that mentoring programs also need a supplementary training program for mentors and, in some instances, prospective protégés. These training programs allow for all participants within the program to clearly identify key goals and desired results for everyone involved.

This paper will focus on various obstacles building mentoring programs that support sustainable, positive organizational change and possible solutions. In addition, it will identify preconceived notions about mentoring that, if not addressed, may become obstacles. Mentoring programs that exist within various institutions will be discussed along with corresponding training programs.

The Origin of Mentoring

The term *mentor* originates from Greek Mythology in Homer's *Odyssey*[12,32]. Mentor was a trusted friend of Odysseus and provided counseling and guidance to Odysseus's son, Telemachos[12,31]. As Odysseus left his home to fight in the Trojan War, he left Mentor, his elder and wise friend, in charge of his household and all that dwelled there. Mentor's role included assuring that Telemachos developed in the *traditional* ways approved by his father. In the first book of *The Odyssey*, a dinner is held within Odysseus's household and an argument erupts between Telemachos and the other men dining with him. Mentor was one of those men partaking in the dinner; but rather than arguing with Telemachos, Mentor protected him and provided a stable backing for him as he argued with the other men. In this instance, Mentor appears as himself. However, within other books contained in *The Odyssey*, Mentor often appears as the

disguised Athena, Zeus's daughter, advising and assisting Telemachos throughout his journeys during his father's absence[12].

In addition to the origin of the meaning of the word *mentor*, this Greek myth also presents some key assumptions that are translated into popular belief of mentoring relationships today such as:

- Mentoring occurs only between two individuals
- Mentoring occurs between individuals of the same gender
- Mentoring may only provide a *traditional* solution to career and work life obstacles
- Mentors are fully trusted by protégés
- Mentoring relationships are easily formed and last for long time periods
- Implementing a mentoring program will solve any organizational problem

The myth does not present these issues as key components of a successful mentoring program; however, many organizations in various cultures have developed these ideas for how a mentoring relationship should be created. Traditionally, mentoring is thought of as a relationship similar to the one presented within *The Odyssey*. It is typically believed that mentoring occurs between two people of the same gender. In this relationship, the individual that serves as the mentor is older and wiser than the individual being mentored. The younger, less experienced individual seeks the mentor for advice on various obstacles, similar to the advice that Telemachos sought from Mentor in *The Odyssey*.

When an organization or an institution implements a "traditional" mentoring program under the common assumptions presented above, the outcome of the program for its participants may be devastating. Such assumptions may lead to participant alienation and even reversing the intended outcome of the program, negatively impacting the organization. As these mentoring programs are implemented within organizations and institutions all over the world, many participants and program coordinators are realizing that mentoring is not a "one-size-fits-all" solution to organizational problems. Throughout this paper these issues, in conjunction with the common myths and misconceptions associated with them, will be discussed. Possible solutions to these problems and potential positive organizational outcomes will also be presented.

Why is Mentoring Necessary?

As mentoring in a topical sense grows more popular within our culture, the need for mentoring and its benefits are also identified. Institutions and organizations develop various mentoring programs to assist new members and employees. Within these programs, mentors provide two general types of behaviors for their protégés: career developmental functions and psychosocial functions[21]. *Career developmental functions* promote the advancement of the individual within an organization or institution such as promotion and tenure. *Psychosocial functions* are mentor-supported aspects of the protégé's life such as personal and career-based activities and

relationships. These functions generally include the protégé's home-life and professional development, such as making contacts within the protégé's given profession[21].

Previous studies and literature have shown that these functions benefit new employees as well as beginning faculty members by assisting them with outlining career goals, identifying key opportunities, and providing encouragement throughout the individual's career. Protégés obtain an increased sense of commitment to an organization[28], receive more promotions, obtain higher incomes, possess a higher career satisfaction and increased mobility within their institutions than non-protégés[21,22]. Mentoring programs also assist individuals with work stress and demands and aid in professional development[19].

It is because of these benefits that any institution or organization implements a mentoring program. With these types of career developmental support, a positive work environment is created for program participants. However, many institutions and organizations implement mentoring programs with the assumption that formal mentoring programs are effective and successful; however, they are often implemented without the guide of any empirical research[21].

As more mentoring programs are adopted into organizations and institutions throughout the industrial and academic fields, individuals holding upper level management positions are realizing that the simple task of applying a mentoring program does not completely solve every organizational problem and does not ensure the success of its participants. Below are some common myths and misconceptions when implementing and carrying out a mentoring program.

Myth #1: A *Mentoring Relationship is Strictly Dyadic*

As previously discussed, the traditional concept of a mentoring relationship is a dyadic one; an older individual guides a younger individual through various career and life paths. Many institutions and organizations have attempted implementing such programs. Often programs consisted of a program coordinator that blindly paired mentors to protégés. Depending on the institution, mentoring pairs belonged to the same college and even the same department. Mentoring pairs were then required to make contact during the mentoring relationship, which generally lasted an academic year for universities. The program coordinator then surveyed the participants and made adjustments to the program accordingly.

Yes, traditional programs may assist individuals with career decisions and career advancement, but there are often underlying difficulties that are not easily detected from an outside perspective. Scheduling conflicts do not allow participants to meet the required contact time for each mentoring pair[10]. Some protégés do not feel comfortable with their mentor, questioning the confidentiality of their mentor and felt that the mentor did not truly have the desire to be participating in the program[21]. In other instances, the mentor became controlling; rather than providing advice to guide the protégé the mentor constricted and enhanced a protégé's career by only allowing specific opportunities to reach the protégé. Such specific opportunities may be held only in the interest of the mentor. In short, the mentor would develop a new faculty member

into younger, less experienced version of themselves, not allowing for any individual career growth of the protégé[21]. These flaws often left many participants feeling unchanged and institutions were skeptical of funding future programs.

To assist in combating such outcomes in mentoring programs, many organizations and institutions developed various ways of pairing mentors to protégés. Activities such as Speed Mentoring[25], personality surveys, and protégé chosen mentors[13] have been utilized in forming a more cohesive mentoring pair. Although these pairing mechanisms have assisted program coordinators in slowly diminishing stated flaws within a program, these flaws are still not completely overcome.

Myth #2: *Informal Mentoring Programs are Always More Effective than Formal Mentoring Programs*

Formal mentoring is the term used to define a planned mentoring process[3]. Individuals are generally placed together in various mentoring groups and attend scheduled meetings[3]. Meeting times and other scheduled events are logged, and financial costs may be documented to help the institution assess whether or not the program experiences continuing success. *Informal mentoring* relationships are generally developed through means other than a formal pairing structure[3], such as participants attending an informal dinner or activity. Meetings and other scheduled events may occur within this relationship, but no criteria are set for the number of times the mentor and protégé are required to contact one another[3]. Although both forms of mentoring relationships have grown in popularity over the last decade, a debate still exists over which type of mentoring is truly more effective than the other.

Table one presents some advantages and disadvantages to formal and informal mentoring programs. These advantages and disadvantages are considered for general cases. Other factors, such as personality differences between the mentors and protégés may be perceived as either an advantage or disadvantage. For example, a formal mentoring program that contains a random pairing structure, personality dependability may be considered a disadvantage whereas for a formal mentoring program that contains an in-depth personality evaluation for both the mentor and the protégé to create mentoring pairs, the program's dependability on personality may be considered an advantage.

Ragins and Cotton (1991, 1999) have determined that informal mentoring programs indeed last longer and are more meaningful than formal programs. Participants in informal mentoring relationships create a relationship over time and out of mutual respect for one another. Benefits for protégés may become long lasting due to the closeness of the mentor and protégé. Protégés will generally choose mentors that possess strong mentoring skills[20,21]. However, the problem arises for institutions when the program is to be implemented. Institutions are required to record budgets for various activities that it may provide for its faculty members and employees, which may prove to be a difficult task for this type of program. For informal mentoring programs,

program evolution is difficult to document and some institutions may feel skeptical about investing in an activity that may not necessarily provide the desired results. Often informal mentoring programs were perceived as the solution to many organizational problems; institutions would implement such a program and never monitor program progression[20]. In turn, this type of program may become detrimental to the experiences of its participants.

Table 1: Advantages and Disadvantages for Formal and Informal Mentoring Programs

Program Type	*Advantages*	*Disadvantages*
Formal	• May be easily implemented • May be easily monitored	• Participants may experience scheduling conflicts • Grouping mechanisms are vital to program success • Short time duration for relationship (Less than one year)
Informal	• Mentors are chosen by protégés • Long time duration for relationship (More than one year)	• Difficult to Implement • Cannot be easily monitored

Formal relationships are often determined by a program coordinator and within a formal setting and are generally short-term; both mentors and protégés may not see the benefits of the mentoring relationship until after the relationship is over. Contact between the mentor and protégé is also generally cut shortly after the formal program is ceased. In other instances, protégés may feel they are pressuring a mentor to spend time with them due to the mentor's commitment to the mentoring program. It is also suspected that formal mentors may be less likely and motivated to provide psychosocial and career development functions for protégés[20,21]. The success of a formal mentoring program may become a "hit or miss" situation; the success of the mentoring program relies heavily on motivation of both the mentor and the protégé. Institutions turn to formal mentoring programs because they are often run much like any other organization that exists within the institution. Money may be budgeted for the program, activities are easily documented, and formal programs create an even starting base for the mentoring relationship to occur.

Formal mentoring programs should not be utilized as a substitute for informal mentoring programs[20,21]. Therefore, problem that institutions are trying to overcome is the process in which to create an informal mentoring experience through a formal mentoring program. Within a combined formal and informal mentoring program, the benefits of formal programs, such as a faster rate of implementation, are combined with the benefits of informal mentoring programs, such as the time duration of the mentoring relationship. Although the program structure may greatly affect the success of a mentoring program, it is not the only aspect of mentoring that needs to be addressed. Other factors that are based solely on the participants such as gender and past mentoring experiences must be discussed.

Myth #3: *Same Gender and Same Race Mentoring Groups are Always More Successful than Groups Consisting of Diverse Participants*

Formal mentoring programs are generally implemented to assist and advance minority groups such as women in STEM fields[20]. Mentoring allows these groups of people the option for assistance in overcoming possible barriers that may hinder their academic career. The following section explains some perceptions of how gender and diversity affects mentoring. As more research is completed with regards to this topic, many researchers are asking themselves if the barriers that gender and diversity create within mentoring are purely perceived or does a difference truly affect the outcome of a mentoring relationship?

Although mentoring is becoming more widely known throughout business and academic fields, women still feel at a disadvantage in terms of finding a mentor or a group of mentors to assist them during their careers. Because STEM fields, such as engineering, are traditionally male dominated fields, women may find it difficult to find a proper mentor(s) to suit their needs. Few women occupy high organizational ranks, which in turn may create difficulty when female protégés are trying to initiate a mentoring relationship with potential female mentors[20].

 Studies have also shown that the gender of the mentor and protégé may affect the overall mentoring experience[20,21]. Mentoring relationships that contain participants with the same gender are often more successful and mentoring functions are better given and received by the mentor and protégé, respectively[21]. This may also supplement the traditional perception that mentoring relationships are more successful when the mentor and protégé have similar backgrounds and are of the same gender.

There are three primary reasons why a female protégé may find it hard to initiate a mentoring relationship with a possible male mentor[19,20]:

1. A fear exists that potential mentors or other colleagues within the institution may mistake the initiation of a mentoring relationship as an inappropriate act such as a sexual advance.
2. Traditional gender roles such as aggressive male behavior and passive female behavior may create a feeling of hesitation when women attempt to initiate a mentoring relationship with a man.
3. Women may lack the opportunity to initiate a mentoring relationship with men such as attending informal outside activities or becoming involved in various collaborations that may provide the chance to form a mentoring relationship.

Ragins and Cotton conducted a study to determine the effect that gender has on mentoring relationships. Primary questions of the study include: Is the impact of gender on a mentoring relationship a purely perceived one? Or is gender a physical barrier of the individuals within the mentoring relationship that needs to be overcome?

Ragins and Cotton[20,21] hypothesized that protégés participating in cross-gender mentoring relationships would not receive proper psychosocial functions as protégés participating in same gender mentoring relationships. From this study, it was found that this hypothesis was not supported. The only aspects of the relationship that proved to have some significance were the following: in mentoring relationships that involved a woman mentoring a woman, the protégé was more likely to engage in outside activities with their mentor than in other gender combinations, and mentoring relationships that involved a woman mentoring a man reported that the protégés received more assistance in the development of their career and in developing a professional sense of self from their mentor.

It is often perceived that because academic fields such as engineering are traditionally male dominated, that men have more power and the ability to obtain the higher positions within an institution. However, Ragins and Cotton [20,21] determined within their study that no support was given for the hypothesis that male mentors are associated with higher protégé career development than female mentors. They also reported that female protégés felt that informal mentoring relationships provided more coaching than formal mentoring relationships. Male protégés perceived both formal and informal mentoring as a sufficient source of coaching and social interaction. As far as counseling is concerned, female protégés reported they received more counseling within informal mentoring relationships than in formal relationships. Men, however, reported that they received more counseling within formal mentoring relationships rather than informal relationships.

Even though women perceive more barriers when it comes to finding and initiating mentoring relationships than men[20,21,28], the study determined that both men and women possess the same fears in terms of taking an assertive role and actually creating the mentoring relationship. In terms of previous mentoring experience in relation to gender, men and women reported similar impacts with mentoring experiences in relation to impacts on their career. However, the mentoring functions that are present during a cross-gendered mentoring relationship have been shown to impact the experience of the participants[27].

One of the conclusions of the Ragins and Cotton[20,21] study is that differences in gender within a mentoring relationship are mostly a perceived rather than an actual barrier. This case may also be supplemented within the original mentoring myth contained within the *Odyssey*. Athena, a woman, often appeared as Mentor to Telemachos, a man. Yet, even through this gender difference, the act of mentoring was still completed; even though Athena appeared as a man, the reality is that Telemachos was being mentored in some instances by a woman with no detriment to the mentoring relationship. Virginia Valian[30] also presents that women perceive less-entitlement towards various relationships and opportunities within organizations than men. It is these small perceptions by both men and women that create the overall glass-ceiling effect; perceptions that if acknowledged and identified, can be overcome and may appear to be a rather small obstacle within the grand scheme of the mentoring structure.

It has been established that gender does impact certain aspects of mentoring, primarily in the case of the mentoring functions that are to be carried out during the mentoring relationship. However, another aspect of mentoring that needs to be discussed is the impact of diversity of mentoring in terms of race. Because engineering and other STEM fields are generally male-dominated by the Caucasian race, mentoring programs group other denominations of race with women. Often mentoring programs are geared to assist both women and other minorities, rather than focusing on one group or the other.

Because individuals that hold upper positions in many organizations within professions such as engineering are predominantly Caucasian men, it can be determined that many minority individuals that participate within mentoring programs will experience mentoring from diverse groups[22]. If mentoring groups are matched solely on gender and race and are based on personal chemistry, many individuals would never have the opportunity to obtain a mentor[18]. Therefore, it is important that other factors be taken into account in developing mentoring programs.

Myth #4: *Gender, Race, and Personality Differences are the Only Factors that Effect Mentoring Programs*

There are many factors that may affect how a mentoring relationship begins. In various organizations, factors such as length of employment, individual rank, and age of the individual may affect how protégés initiate and interact with potential mentors[20]. As individuals are employed at an institution for a longer time frame, more networking may occur and the possibility for that individual to find a mentor may increase[20]. Individuals that possess higher ranks within an institution generally have more access to other individuals and resources to help them obtain higher rankings at that institution[20]. The knowledge of resources also plays a big role with older individuals. As older individuals are employed at an institution for a longer period of time, the more knowledge is gained as to where to access specific mentoring resources[20].

Another factor that affects mentoring is the history of the protégé and the mentor. As individuals are mentored and serve as mentors, experience is gained as to what qualities a protégé looks for and what types of mentors are would benefit the institution. It has been shown that mentors with previous mentoring experience, whether as a protégé, mentor, or otherwise, obtain higher promotions and typically have higher salaries than individuals who do not have previous mentoring experience[21]. Protégés that report a history of mentoring throughout their careers also report fewer barriers to overcome in terms of initiating a mentoring relationship[20]. Protégés with previous mentoring experience may also realize the importance of mentoring relationships and are more willing to overcome and are more confident when trying to initiate a mentoring relationship with a potential mentor.

Individuals who are engaged in career planning are more likely to know their own strengths, weaknesses, and interests than individuals who do not engage in such activities[19]. These activities may prove beneficial to both mentor and protégé roles within a mentoring relationship.

From the knowledge of strengths and weaknesses, mentors and protégés may identify them and optimize their relationship to suit these personality traits. From these identified traits and interests, the protégé and mentor may set relationship goals[19].

Myth #5: *All Experienced Faculty Already Know How to be Effective Mentors*

Major questions arise within mentoring programs: How truly effective are mentoring paring mechanisms? Are they really as important to successful mentoring relationships as many individuals believe? Faculty development researchers such as Moody and Boice believe that chemistry between mentors and protégés and the spontaneity of mentoring relationships are overvalued[16].

Upon conducting this research, the authors have determined that traditional pairing mechanisms are, in reality, not as effective as initially perceived by program coordinators. These mechanisms include surveys of both the mentor and protégé and the blind pairing of a mentor and protégé. No matter what type of personality a mentor may have, any individual should be able to be trained as a positive mentor, learning such skills as welcoming new faculty and assisting in various aspects of the potential protégé's career. As long as institutions are willing to educate participants and provide flexibility to them within mentoring programs, participants will less likely feel trapped with one individual mentor and are more likely to benefit from the mentoring relationship.

In the past, institutions have been under the impression that creating a mentoring handbook would be a sufficient means of educating and training both mentors and protégés. However, many faculty members, especially new faculty members, may feel overwhelmed and hesitate to participate within the program if the introduction to the program is to read a 75-page handbook[18]. In theory, this type of education may seem ideal, the reality is that many individuals will not sit down and read a manual on mentoring and retain all of the information to apply within their careers.

However, mentoring training is moving forward in a positive direction. Many institutions such as the University of Rhode Island and the University of Arizona are developing training programs and informational literature to educate mentors and protégés as to what mentoring is and how it should be performed so that all participants within the relationship are benefitted.

Below is a short list compiled by the University of Montana that defines the roles and expectations for both the mentor and the protégé within the mentoring program[1].

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[1] This list was taken off of the Univesity of Montana's UMPACE Website:
http://pace.dbs.umt.edu/Mentoring/Roles.htm

The roles of a mentor shall include:

- Providing a supportive atmosphere that includes honest criticism, specific suggestions for improvement, and informal feedback
- Providing advice on how to balance teaching, research, service responsibilities, and how to set professional priorities
- Providing knowledge of informal rules of advancement, as well as insight into pitfalls to be avoided
- Providing insight into the appropriate and accepted ways to raise concerns, issues, and problems
- Providing perspectives on long-term career planning
- Sharing experience
- Providing support in additional areas that will contribute to the success and professional satisfaction of the junior faculty members
- Reviewing and providing input on the development of the faculty member's annual evaluation summary prior to submission to the faculty evaluation committee

The roles of a mentee shall include:

- Initiating regular meetings with the mentor
- Listening to advice and criticism with an open mind and putting the advice of the mentor into practice
- Being willing to discuss with the mentor any ideas, goals, aspirations, and problems
- Seeking advice from the mentor on organizational norms and expectations as appropriate
- Seeking feedback from the mentor and others regarding strengths and additional developmental needs

In addition to informative literature, such as the list above, institutions are implementing workshops for training sessions. An example workshop was completed by the University of Arizona on October 12th, 2007 that included activities such as a group discussion on mentoring experiences and outlining a mentoring plan. Training programs, in addition to easy-to-read literature on mentoring, many programs will be able to start an effective mentoring program; slowly, institutions are determining that mentoring education is a key component into creating a successful mentoring program, not just pairing mechanisms for mentoring groups.

Recognizing the Need for Mentoring in Organizations

As the need for mentoring is realized throughout academe, many organizations within the corporate world are also recognizing this need. Similarly, as mentoring programs are developed, implemented, and analyzed at institutions all across the country, organizations are also

experimenting with various mentoring paradigms to boost company morale, promote sales, and reach out to various consumers[29].

In addition to the similarities between the need and the experimentation of mentoring programs, organizations also have misconceptions about mentoring programs that need to be addressed and overcome. Some of the primary misconceptions are presented below.

Myth #6: *Mentoring is Never Required for Upper-Level Employees*

As an individual moves up through the hierarchical network of an organization, the individual gains more experience and becomes more knowledgeable about the organization and its environment. With this new gain of experience, individuals may feel that they no longer need a mentor to assist them in areas such as information resources and career and identity development[33]. This same mindset may also be applied to senior level faculty present at institutions. A senior level faculty member at an institution would be synonymous to an upper level employee at an organization.

The fact of the matter is that even individuals who possess the highest of positions in an organization or an institution will face obstacles unknown to them. It is in these instances that mentors, or even peer mentors, would be helpful in coaching or providing advice on various aspects of the situation presented. This also brings back to light the aspect of mentoring that is generally overlooked; mentoring should be utilized as a coaching and personal development tool. An individual within an organization will never know the exact solution to every obstacle or personal problem that may occur during their employment at the organization. It is in these instances that mentors need to be continuously utilized, regardless of how much experience the individual may have.

Myth #7: *Individuals Already Serving as Mentors Never Have Any Additional Need to be Mentored*

It is often perceived that as an individual moves up into a mentoring position, the said individual no longer needs to be mentored due to the fact that they hold the mentoring positions[33]. This myth may also be held in conjunction with Myth #6 as presented above.

Peer mentoring proves to play a vital role in mentoring mentors. In correlation with Myth #6, mentors will not always have the answer to their own obstacles and work-life balances. It is important that even mentors reach out to other mentors to provide that coaching and support that is needed to create a successful career. As mentors mentor one another, one must keep in mind that the aspects in which the mentoring needs to occur varies among the stage of the career that the individual is currently involved.

Kram[17] presents various levels of status within an organization: Early Career, Middle Career, and Late Career. From these levels of organizational status, various developmental functions of peer mentoring may occur. Developmental functions of peer relationships are presented in Table 2.

From these functions, career advancement may occur. In the absence of career advancement, a feeling of confidence and motivation may be sustained when mentors seek out the advice of other mentors. Reassurance and comfort may be provided during times of stress, which may benefit both individuals at any given instance.[17]

Table 2: Developmental Functions of Peer Relationships[17]

Career-Enhancing Functions	Psychosocial Functions	Special Attribute
• Information Sharing • Career Strategizing • Job-Related Feedback	• Confirmation • Emotional Support • Personal Feedback • Friendship	• Mutuality

Many of the myths listed for both academic and organizational mentoring may be related and associated with one another. Myths for organizations may be applied accordingly to academic institutions; similarly, myths for academic institutions may be applied to organizations. The primary difference between the two types of mentoring cases lies within the context in which the mentoring occurs and the obstacles that individuals involved in both environments will encounter.

New Forms of Mentoring: Potential Solutions to Aged Obstacles

With respect to factors such as gender, race, previous experience and training, a new form of mentoring must be created to suit all participants and create a healthy and flexible relationship for all involved. In response to the traditional dyadic mentoring obstacles, many institutions are developing new mentoring programs that provide both diversity and an informal feel of mentoring relationship within a formal mentoring program. Some mentoring paradigms and a brief discussion of each are presented below[9].

> *Circular Mentoring*: a mentoring relationship in which two one-on-one mentoring pairs come together to form a larger mentoring group[11].

- *Triangle Mentoring* (aka triadic mentoring): involves three people within the mentoring relationship and is similar to the circular relationship where two protégés are matched to one mentor[20].
- *Group Mentoring*: a mentoring program that involves a group of both mentors and protégés. Generally this group consists of more than five individuals.

The advantage these mentoring programs present over traditional programs is their capability to provide flexibility within the program. As discussed earlier, personality differences, scheduling concepts, and other barriers that may be perceived by women and other minorities are

significantly decreased. Also, these relationships provide various forms of mentoring to occur such as the traditional dyadic mentoring in addition to peer mentoring.

In order to create more diverse faculty and employee populations throughout engineering and science, it must be acknowledged that organizational and institutional change consists of many components; mentoring being a primary tool for creating such change. New mentoring programs are structured to promote the advancement of women and minorities throughout these establishments and encourage individuals to communicate with one another and overcome other barriers that women and minorities face while employed at an institution or organization.

Recommendations

It is often said that "two heads are better than one". In this case, two heads may not be enough. These authors suggest that a group mentoring structure, similar to the circular mentoring paradigm, be utilized within institutions. This program will allow the confidentiality of a dyadic mentoring paradigm while also providing the flexibility of a group mentoring construct. This type of mentoring allows for peer as well as superior mentoring and may help facilitate the informal mentoring program feel within the formal mentoring scheme. Formal meetings may be set up for either the dyads or the entire group in addition to informal group activities.

In addition to creating flexibility in terms of meeting times and scheduling activities, this type of construct also creates flexibility for promoting diverse mentoring groups. Within this type of mentoring, not only one mentor is assigned to each protégé, therefore, diverse groups may be combined so that protégés may obtain a well-rounded mentoring experience by obtaining information from more than one source. This may also be a useful tool utilized within institutions that lack the critical mass that is required to obtain same gender and same race mentoring groups[16].

As mentioned in the previous section, training programs are key components in educating both mentors and protégés. These programs may be utilized to educate and inform mentors and protégés as well as identify key issues that affect mentoring such as gender and race. These barriers may be overcome if individuals realize they have common goals and interests. Participants need to keep an open mind about the mentoring relationship as a whole and be willing to put forth the time and effort so that all participants within the program succeed.

Organizational Benefits of Mentoring Programs

Every institution or organization wants to continue to advance to the next step in their field. Mentoring programs may assist these bodies in achieving that goal. In academia, many institutions are providing support for faculty members so that they are excited about the institution and are ready to move the institution forward. The same is true within industry.

In order to reach out to various groups of customers and focus on the talent of its employees, IBM instated a mentoring program that developed "task forces" that combined the minds of the various groups employed by the company. Each task force consisted of a group of individuals, such as Asians, women, and gay and lesbian individuals[29]. From these groups, goals set for each group as well as for the company as a whole were determined. The leaders of these task forces were then combined to set down company policies and create a strategy to improve both company sales and the morale of its individuals. These task forces also served as mentoring programs for the employees, encouraging them to be open and honest with one another.[29] Indeed, these task forces were not diverse within their own sense, but they allowed for the company's diverse employee base to come together and form overall objectives for the company. These task forces have developed better company-employee relations and assisted in recruiting, retaining, and advancing the best employees within the company[29].

As described above, companies such as IBM are finding success when the issue of diversity is not ignored[29]. As companies try to assist its employees and accommodate them to meet their needs, employees will be willing to put forth more effort and take pride in the company. This tends to be a logical conclusion and is based off of personal experience of the author. It has been estimated by IBM that the company will produce more than one billion dollars in revenue in the next ten years since the implementation of the task force program[29]. Successful mentoring programs within industry should promote company growth and advancement as well as provide a positive work environment for its employees, similar to a successful program within an academic institution. Some organizational benefits of successful mentoring programs include increased employee and faculty productivity, a warmer, more positive work environment, and a boost in company morale as a whole. Mentoring also assists employees during times of transition when a shift in power occurs such as when a new president of a company is taking over (Wilson and Elman, 1990). When an organization is going through change and/or has a culture of innovation, the needs of these change processes require new skills, and sometimes new attitudes, in workers of all levels[15]. If the workers who have been tapped to be mentors for the less experienced workers are not continually mentored themselves, they may fall into the trap of propagating the old behaviors and attitudes rather than supporting the newer goals of the organization. Additionally, mentoring also provides the opportunity for new employees to learn about the cultural background of the company through the source of the more experienced employees[33].

Conclusion

In order for mentoring programs to be successful, the traditional ways of mentoring, particularly the dyadic mentoring model, need to be improved or replaced for programs both present in academe and industry. Clearly, the traditional ways of mentoring do not provide positive results for every participant. Although this may be true within any type of mentoring program, new programs that provide more flexibility and reduce the feeling of isolation within the organization or institution[1]. These programs allow more opportunity for an informal mentoring relationship to occur within a formal mentoring program.

In addition to structuring a program correctly for an institution or an organization, both protégé and mentor attitude toward the mentoring relationship greatly affect the outcome of the mentoring relationship. Participants need to be open to one another and willing to seek help and advice from the other[19]. Individuals who perceive work relationships as task-oriented and time consuming are less likely to initiate and seek a mentor to utilize such a career support structure outside of a formal work environment[19]. Time must be utilized by both the mentor and protégé within both a formal and informal setting. Mentors must also realize where mentoring relationship boundaries are overstepped, thus turning the mentoring relationship into an ineffective one.

Without flexibility and an understanding of time commitment on both sides of a mentoring relationship, many mentoring relationships are initiated but do not produce any real benefit for either the mentor or the protégé. Institutions are working to combat this issue by providing mentoring training programs for both mentors and protégés alike. Training programs lay out the structure of the program, time commitments on both sides of the relationship, and the occurrence of both formal and informal mentoring activities and functions.

Pairing mentoring groups by personality, gender, and race may provide a more comfortable environment for mentoring to occur, but how effective is this type of mentoring group? Within an organizational sense, mentoring may be utilized as an effective way to overcome diversity issues and create a better work environment for its participants. Participants may become more "well-rounded" and obtain different perceptions on various issues. This, in turn, will assist any institution or organization with moving forward and improving upon its old processes.

If mentoring for the future is to overcome such phenomena as "the glass ceiling", steps need to be taken to change how mentoring is perceived. If we continue with the current mentoring practices, this cycle will continue. With the knowledge and experiences of a group, new perspectives will be gained by individuals, which is truly the key component in advancing any program.

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