

VIRTUAL MENTORING: THE CHALLENGES AND OPPORTUNITIES OF ELECTRONICALLY-MEDIATED FORMAL MENTOR PROGRAMS

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ABSTRACT

This paper examines what the author labels “virtual mentoring,” communication techniques which enable companies and other organizations to maintain formal mentoring programs that predominantly utilize electronically-mediated modes of communication between mentors and protégés. It examines the rationale behind the implementation of this non-traditional approach to formal mentor programs. In addition, the paper explores the issue of the efficacy of communication modalities such as e-mail, telephone, videoconferencing, texting, webcams, and virtual reality, to replicate the in-person mentor-protégé interface.

Keywords: Mentoring, Mentor Programs, Virtual Mentoring, Technology Management, Management Development, Cybermentoring, Telementoring, E-mentoring, Training

1. INTRODUCTION

Over the last two decades businesses and other organizations have experienced an explosive growth in the utilization of mentor programs to address a number of goals—succession planning, training, strengthening of the corporate culture, and management development. More recently, organizations and the human resources development profession have recognized the role that mentor programs can play in enabling the soon-to-retire Baby Boomer management cohort to pass on its knowledge to the next generation of leaders (McKeown, 2011).

In recent years several trends have emerged that, while improving the efficiency and effectiveness of the companies involved, have had variable effects on the mentoring process. Companies have become increasingly global in scope and operation. Also, many corporations have encouraged the practice of “telecommuting.” In addition, companies have required more employees, especially those in the management ranks, to spend much of their time traveling to different locales.

Because of such trends increasingly employees are physically distant from each other. They work in their individual homes, or in different states or countries, and even if they are based in same geographic location as their co-workers, their travels keep them physically separated from their co-workers a good deal of the time. According to recent American Community Survey data, around 2% of the U.S. employee workforce, or 2.8 million people, (which does not include the self employed) primarily work from home. It has been estimated that between 20 to 30 million people currently work from home at least one day a week, and an additional 15 to 20 million mobile workers, such as sales people (Telework Research Network, 2009).

Mentoring traditionally has been envisioned as a process involving a one-on-one physical interface. The mentor and protégé meet in a physical locale—office, conference room, restaurant—and pursue their relationship in person. However, companies that wish to establish or continue formal mentor programs may have to adapt mentoring to an organizational environment in which potential mentors and protégés cannot easily meet one-one.

This paper examines methods by which companies can maintain formal mentoring programs even if program participants are physically distant from each other.

2. MENTORING AND FORMAL MENTOR PROGRAMS

To develop a formal mentor program a company must first establish a working understanding of what the mentor actually is. For guidance in this process, program implementers usually turn to the literature in fields such as management, social science, and organizational behavior.

The literature has defined a mentor as an individual who oversees the personal and career development of another person, usually referred to as the protégé. For the last two decades the business and management literature has explored the dynamics of the mentor relationship. Generally, two major models of the mentor relationship have evolved: the structural/organizational, and the psychological.

The structural/organizational concept characterizes the mentor according to the roles that he or she plays in the life and career of the protégé: teacher, advisor, sponsor, psychological counselor, and direct promoter (Zey, 1999). The "mutual benefits" model enumerates the many advantages that accrue to the mentor, the protégé, and the employing organization.

The second model, the psychological model, focuses on the stages of the mentor-protégé relationship. Kathy Kram's work is a prime example of this view. Kram portrays the mentor-protégé relationship in almost therapeutic terms, replete with a "termination" stage in which the protégé surpasses and ultimately rejects the mentor (Kram, 1985).

However, over the last decade or two the conventional concept of mentoring as defined in the literature is being operationally expanded in new formal mentor programs. Hence, the definition of "the mentor", and mentoring, seems to be morphing into a number of variants on the traditional concept.

Let us look how one business field is expanding the concept of mentoring and challenging accepted definitions of the term "mentor". A variety of accounting firms, such as PricewaterhouseCoopers, use a "buddy" system, in which peer mentors show the ropes to new hires with similar day-to-day responsibilities as the peer mentors. In some firms, "team mentors" are used. Employees work with multiple mentors, each of whom provides assistance in a specific area. A Bethlehem, Pennsylvania engineering firm implemented a team mentoring program where the supportive mentor group consisted of department heads, human resources professionals, senior managers and an outside consultant. Some accounting firms push the envelope even farther, hiring corporate coaches from outside the company to serve as "consultant mentors" (Gregg, 2000). We will have more to say about the use of corporate coach as mentor a bit later.

Changing economic, organizational, and technological conditions also seem to be challenging the way we think about the mentor concept and serving as a catalyst for the adoption of new practices within formal mentor programs. In 1999 General Electric launched a massive drive to construct an electronic commerce system. Managers quickly realized that they would have to upgrade the knowledge base of the entire GE employee pool. They determined that a formal mentor program would play a pivotal role in the training process.

Usually, mentoring programs follow the classic definitional paradigm in which the older mentor serves as a teacher of new skills to the younger protégé. However, GE quickly realized that the wellspring of knowledge regarding computers and e-commerce existed among the younger workers, not the seasoned GE veterans. GE, long a champion of formal mentor programs as a method for developing organizational talent, had traditionally followed this paradigm. In this case, however, then-CEO Jack Welch ordered his top 6000 or so managers to reach down into their ranks for the younger "Internet junkies" and permit these younger but more knowledgeable workers to become the older workers' mentors. Hence, at GE older managers were now

mentored by younger, more managers on such issues as use of the Internet, setting up a web site, and combing the Internet for data on products and technology.

GE stood on its head one of the more accepted truisms of mentor programs, that the “senior person” must be the mentor in the program (Murray, 2000).

3. THE BENEFITS OF MENTORING

During the 1990s and the 2000s it has become standard operating practice for companies to utilize formal mentor programs as a management development strategy. Some of the more prominent companies to establish such programs are Convergys (Boehle, 2007), IBM (Frauenheim, 2006), Bell Atlantic (Williams, 1995), Coca Cola (Veale, 1996), Hoechst Celanese, Chubb & Son, the U.S. Postal Service, JFK Health Services, Inc., Nabisco, Aviall, Inc., Champion Corporation, NYNEX, Pitney Bowes, Inc., and Procter & Gamble. The military is even utilizing such programs to develop talented recruits into officers (Fast, 1996). The PNC Financial Services Group, Inc. and SCC Soft Computer have received much praise from the human resources community for implementing effective formal mentor programs serving a diversity of employees (Stokes, 2011).

Companies such as IBM, AT&T, and Kodak employ coaches to fulfill a wide variety of roles, including reinvigorating or retooling flagging executives. Workers often hire coaches on their own, frustrated by the lack of career advice and job direction available inside the company. They employ coaches for guidance on how to improve their performance, boost their profits, and make better decisions about a wide range of business-related issues, including personnel, strategy, even office politics.

In addition, organizations have linked formal mentor programs to their leadership development program (Scandura, Tajeda, Werther, and Lankau, 1996). Companies like Nabisco have actually used mentoring to reinforce other forms of structured leadership development—the company assigns mentors to those managers designated as “high potential” in the expectation that these mentors, usually drawn from the ranks of upper management, will serve as role models for the cohort of future corporate leaders.

The benefits accruing to participants in formal mentor programs have been well-documented. In a recent five-year study of over 1000 employees of Sun Microsystems, researchers examined the impact of mentoring on program participants. The study found that the program participants, that is, both mentors and mentees, fared better than non-participant as measured on several key metrics. Both mentees and mentors were about 20 percent more likely than non-mentoring employees to experience a change in salary grade. Participants enjoyed higher retention rates--both mentees and mentors were about 20 percent less likely to leave the organization than non-mentoring employees. In addition, mentees were five times more likely to receive a promotion than control group members, and the mentors were six times more likely.

The Sun Microsystems research validates the perception that “mentoring is a different kind of learning altogether,” one that takes place in the realm of “high quality connections and relationships, where both parties learn and gain value” (Triple Creek Associates, 2010). It is interesting to note that earlier studies discovered a significant salary differential exists between the mentored and the unmentored. One study claimed that managers who had mentors in their careers earned \$16,000 per year more than those not having the benefit of being mentored (Shaw, 1995).

Companies ostensibly develop such programs for a variety of reasons, including personal/professional development of managers, teaching employees the corporate culture, sharpening of employees’ job skills, new employee orientation, and leadership development (Zey, 1988). Companies such as Kinney (Laabs, 1994), AT&T, Dow Jones and Company, Colgate

Palmolive, and Liz Claiborne, Inc. (Catalyst, 1993) have established such programs specifically to advance women and minorities. Surveys that demonstrate that women benefit greatly from informal mentoring have reinforced the enthusiasm companies have for such programs (Mainiero, 1994; Simonetti and Ariss, 1999). Mentoring has served as a powerful force in the inclusion of women in the Information Technology field (Radcliff, 1999).

DuPont Corporation has established one of the more inclusive and elaborate formal mentor programs in the United States. During the 1990s DuPont established mentor programs in their Agricultural Products, Automotive Products, Facilities Services, Haskell Laboratory, and the Polyester Films and Polyester Resins units. The DuPont programs demonstrated that the formal mentor concept is so flexible it can be adapted to a wide variety of institutional settings to solve a myriad of organizational problems. One division used mentoring to enhance personal development and serve as a way to facilitate the division's diversity program. The Engineering division envisioned mentoring as a way to enhance the personal development of its employees. The purpose of the Haskell Labs program was to enable mentors and protégés to "share knowledge, skills, experiences, and perspectives that result in their mutual development". Another division incorporated the mentor program into its leadership development program (DuPont, 1999).

Research continues to show that regardless of the intent of formal programs such as DuPonts, an important outcome of the programs is their tendency to increase the degree of loyalty a protégé feels toward the organization. (Borrego, 2000)

4. FACTORS NECESSITATING VIRTUAL MENTORING

Although mentor programs are thriving, often companies are faced with certain obstacles to implementing the programs. More specifically, factors exist that prevent potential mentors and protégés from physically interacting. Companies are thus confronted with a choice: either abandon the use of mentor programs as a developmental tool, or find modalities for mentor-mentee interaction that transcend physical distances.

Virtual mentoring, i.e. mentoring in which electronic-based communication is the primary format for mentor-protégé interaction, is emerging as a program tool for several economic, organizational, technological and sociological reasons. Generally, virtual mentoring is evolving because the following factors:

1. The growth of the multinational corporation
2. Potential mentors and protégés might be located in separate organizations, functions, and/or companies.
3. Corporations and small and mid-sized business are now more geographically dispersed than in previous decades.
4. Each year more employees are working from home instead of physically commuting to the workplace.
5. In most organizations potential mentors and mentees are so time-pressed that physical interactions are becoming increasingly problematic.
6. The development of a plethora of novel, user-friendly technologies facilitating electronic communication.
7. The rapid adoption of such technologies by the general public.

Fortunately, companies have at their disposal an expanding array of electronic modalities to facilitate the implementation of cyber-based mentor relationships. These include the telephone, e-mail, fax, chatrooms, webcam, videoconferencing, and virtual reality.

Each of these modalities has a distinctive potential for enhancing human communications. Research into non-mentoring electronically-mediated relationships should provide the mentoring field advance information of the ability of electronics to facilitate the formal mentor relationship.

5. DEFINING VIRTUAL MENTORING

One problem that emerges from the field of virtual mentoring is the tendency of academics, researchers, practitioners, and business professionals, as well as mentor program participants to use a number of different terms to describe the virtual mentoring process.

The labels that researchers and others have affixed to this phenomenon include e-mentoring, e-coaching, computer-mediated mentoring, telementoring, e-mail mentoring, internet mentoring, online mentoring, cybermentoring, virtual mentoring, electronic mentoring, distance mentoring, web-enabled coaching, and web-based mentoring.

Marino defines e-coaching as “the process for connecting distance coaches to clients through technology and distance communication methods” (Marino, 2004). The author mentions that some use the term e-coaching interchangeably with other terms, such as “distance coaching” or distance mentoring, and he considers “telementoring” as an acceptable substitute for e-coaching. What all these terms have in common, Marino asserts, is that they refer to a mentoring process that is largely technology-based. That is, the mentor and protégé communicate via some form of electronic technology. These formats can include telephone, video conferencing, e-mail, online chat sessions, knowledge bases, texting on a Blackberry or iPhone, instant messaging and other technologies (Rossett, Marino, 2005).

Theorists have also used the term telementoring as a catch-all phrase to describe online and other electronic forms of mentoring (Chan, 2000). Single and Muller use the term interchangeably with cyber-mentoring, or virtual mentoring (Single and Muller 1999). In telementoring the mentor and the protégé interact via e-mail, texting, instant messaging, discussion boards, and audio and visual conferencing.

According to the literature, telementoring includes both synchronous and asynchronous formats. The question of synchronicity is germane to the labeling and definition of the electronic mentoring process. E-mail communication tends to be asynchronous. The protégé poses a question via e-mail, and the mentor responds to the question in an hour, day, or a week. If e-mentoring is meant to refer to mentoring performed strictly via e-mail, the process is largely asynchronous. Another term, *online mentoring*, has been used synonymously with e-mentoring, especially in situations in which the communication between mentor and protégé is asynchronous (Whiting and Janasz, 2004). On the other hand, telementoring evokes an image of mentor and protégé communicating in real time via phone, texting, or audio and video conferencing methods such as Skype and WebEx.

It is worth noting in any discussion of the definition of telementoring that the term itself has been appropriated by a field outside of the normal business and management sphere and has acquired a fairly different meaning in that field. In medical training, the term telementoring is used to denote “the real-time and live interactive teaching of techniques or procedures by a telementor to a student” (SAGES, 2000). A professional physician helps train an intern or new practitioner in a particular surgical technique in real time. The telementor and the student are in two different locations, and the telementor can see the performance of the procedure as the student is actually executing the procedure. The telementor and the student can communicate verbally during the session. While the telementor cannot intervene in the procedure, he or she can advise and guide the protégé throughout the process (Wood, 2011).

E-mentoring has been defined in various ways. Hunt first refers to e-mentoring as an e-mail exchange between mentor and protégé. He then expands the definition to include the use of any communication technology to facilitate a process "by which two people assist each other to grow and learn in a safe and supportive relationship" (Hunt, 2005). He adds that technology should not be permitted to overwhelm the relationship. Mentoring, he advises, should always remain a very personal experience.

Scandura and Hamilton defined e-mentoring as "a process of using electronic means as the primary channel of communication between mentors and protégés" (Hamilton and Scandura, 2003). They make a distinction between electronic mentoring (e-mentoring) and traditional mentoring (which they label t-mentoring). The critical difference to them is the fact that in traditional mentoring settings, the mentoring relationship is primarily a frequent face-to-face experience between the protégé and the mentor. Unlike other theorists, in their definition of e-mentoring, the creation of the mentor–protégé relationship can take place either face-to-face or electronically. What differentiates the two formats, they say, is that in e-mentoring relationships the post-introduction "continuation" phase primarily takes place electronically. The parties communicate via e-mail, chat, Web, and message boards. The use of chat room and discussion board formats has been found to increase the quality of e-mentoring (Naish, 2007).

Some of the problems with defining e-mentoring are rooted in the rapid evolution of and sheer variety of communication technologies. In a 2002 article, Bierema and Merriam define e-mentoring as "a computer-mediated, mutually beneficial relationship between a mentor and a protégé which provides learning, advising, encouraging, promoting, and modeling, that is often boundaryless, egalitarian, and qualitatively different than traditional face-to-face mentoring" (Bierema and Merriam, 2002). However, the mentor and protégé can communicate virtually without the use of computer-based technologies. Some of these communications take place via the common landline telephone, cell phone, and Blackberry. It would seem a stretch to label all such electronic technologies "computer-mediated." Ironically, none of the researchers have included non-electronic modalities in their definitions. Would a mentor and protégé who communicate strictly via postal mail service, that is, by written letter, be considered engaging in "virtual mentoring?"

Bierema and Hill use the term virtual mentoring as an umbrella term for a host of other labels used in the literature, including computer-mediated mentoring, telementoring, e-mentoring, online mentoring, e-mail mentoring, Internet mentoring, and cybermentoring. In fact, they feel that most of these terms can be used interchangeably (Bierema and Hill, 2005). The advantage of using a term such as virtual mentoring is that it is not limited by a particular technology. While we can assume that the future of the non-face-to-face mentor relationships will be mediated electronically, we cannot be certain how technology will evolve. What we do know is that by its very definition a mentor relationship in which the mentor and protégé communicate by any method other than the in-person interface is *virtual*.

I have chosen to use the term "virtual mentoring" because it is not technology-specific. Virtual mentoring is a mentor relationship that transpires outside of the normal range of face-to-face activities, and that is mediated by a range of communication modalities, including the full range of computer and electronic modalities such as texting, Skype, WebEx, e-mails, instant messaging, telephone, cell phones, and eventually virtual reality.

6. COMPANIES EXPERIENCE WITH VIRTUAL MENTORING

Many companies and organizations are now embracing variations of virtual mentoring. Companies use a variety of technologies to facilitate communication between mentors and protégés, but all these programs share the common thread of electronic communication applied to some aspect of the mentoring process.

Intel is a pioneer in online mentoring, having used an automated mentoring web site since the initiation of their mentor program in 2001. Now, Intel has involved all of its 100,000 employees in the mentoring program. The typical mentor relationship lasts about six months, and the mentor and mentee are required to spend a minimum of one hour per week communicating with each other.

At Intel employees looking for mentors simply log onto an internal web site, and then list various career interests and skills they wish to develop. The system immediately produces a list of available mentors that meet the entered criteria. The employee can then review the listed mentors' information on-screen. Once the employee decides which mentors meet his or her requirements, the employee clicks a "match" button. The system then sends an e-mail to the possible mentor, notifying the potential mentor that the applicant is interested. The mentor is not bound by this electronic selection process. He or she can indicate availability and if not available can advise the employee to continue searching through the web site to choose an alternate. Intel uses a "carrot" to induce participation by senior managers in the program: the recognition of their participation in the program is noted on a mentor's annual performance review.

Surveys administered by the company and organizational specialists reveal that the participants favor online mentoring over the traditional program, at least when the online approach is used for the critical matching and pairing process. They prefer it because of its user-friendly nature and the immediacy of the results. The computer and the participants, not the participants' supervisors or the human resources department, ultimately determine the pairing decision. However, the cyber-system contains safeguards to insure that the mentors and junior participants meet the mentor program's criteria. Mentors must be one to three grades higher than the mentee, must possess more expertise than the mentee in one or more of the three areas the employee has listed as developmental needs. Both members of the mentoring dyad must work in different departments and must not be in the same chain of command.

Intel's program has successfully linked employees with mentors at all levels of senior management and enjoys a high participation rate.

Other companies use cybermentoring techniques to link employees. KPMG initiated a voluntary nationwide mentoring program in 2004 as part of its "Employer of Choice" initiative, that also includes flexible work schedules, community volunteer opportunities with pay and other work/life benefits. Similar to the Intel online database, the KPMG system has been described by KPMG officials as "user friendly" and easy to navigate. As a result of the cybermentoring matching and linking system, over 6,000 mentoring relationships have been formed, representing one-third of the company's total workforce. Anecdotal reports link the program to lower turnover, higher employee satisfaction, and a greater sense of team cohesion among the company's professionals (Owens, 2006).

Female employees at Xerox felt there was a need for a mentor program, but could not get the company to support them in their efforts. So they decided to initiate a mentoring program on their own. They utilized the full power of virtual technology to establish a program within the company but with very few organizational resources. They simply set up a website where company managers could simply apply online to serve as "program" mentors and protégés. They were able to recruit 35 executive-level mentors and 42 prospective mentees from which 34 mentorships were established. The program, started at the organization's "grass roots," is thriving (Carvin, 2009).

Dow Chemical has been using forms of online mentoring for over a decade. Dow selected Triple Creek Associates Inc. to establish a "smart matching system" to select and match mentoring pairs. Dow Chemical's program is a success, judging by the fact that it has 1,500 mentoring pairs throughout the company. In a recent four-year period 2,500-plus employees have used the system.

Triple Creek has become a force in the emerging virtual mentoring field. It has helped companies like hotel giant Wyndham establish an electronically-based mentoring program which plans to attract about 500 participants eventually. Wyndham initiated this cyber-based mentor program in order to reduce turnover. Typically, the Wyndham mentee selects a mentor from a list of potential managers, and has seven days in which to contact the mentor. They meet in person for the first meeting, and then are free to decide whether for the remainder of the relationship they will communicate in person or electronically. It is important to note that some companies do not use third party providers to establish the electronically-based mentor system. For instance, Abbott Laboratories created its own mentor matching system by linking the mentor system to the company's own internal human resource systems. They expect the program to grow from 1000 participants to thousands in the future (Tahmincioglu, 2004).

Risk-management consultant Aon Corp. recently decided to develop an online mentoring program. When Aon first decided to launch the program, it expected to enroll 500 participants. Instead, it has 750 program participants in active mentoring relationships. Sparked by the success of its pilot program, Aon in 2007 decided to extend the virtual mentoring program to its 46,000 employees over a three year period.

Anecdotal evidence from online programs shows the advantages as well as the challenges of the cybermentoring program. The program is exposing older managers to the thinking and working styles of the younger workforce, and providing them the opportunity to better understand the emerging organization.

More importantly, the experiences of companies such as Aon reveal how radically virtual mentoring is changing our traditional concepts of the mentoring process. Companies notice that in virtual programs a great deal of reverse mentoring is emerging, with the younger worker "teaching" and advising the formal mentor. Suddenly, more group mentoring and peer mentoring is evolving naturally within the electronic sphere. This mirrors the way people communicate today when using a Blackberry or iPhone, or when they enter a chatroom. Ideas and opinions are shared across electronic and social boundaries, with individuals and groups, both synchronously and asynchronously, and in an egalitarian manner. It is not surprising then that cyber-based communication conducted within a mentor program would reflect some of these social norms evolving along the electronic frontier.

Just a few years ago Triple Creek added 15 to 20 clients annually. In the first quarter of this year alone the company signed up 14 clients. Most are Fortune 500 companies and governmental organizations (Podmolik, 2007).

Not all experts agree that the cybermentoring technique can satisfy all operational aspects of a mentor program. Programs still need a human coordinator to deal with issues that arise in the implementation and operation of the program. Furthermore, the machine is not perfect when it comes to eliminating managers who are simply not good mentor material. Sometimes a professional human resource department professional who is familiar with the work records and personalities of both the mentor and the protégé are in a better position to select the mentor. At Option One Mortgage Corp., an H&R Block division, it was learned that professionals still were needed to train managers to be mentors (Tahmincioglu, 2004, pg. 65).

Shortcomings aside, virtual mentoring has emerged as a powerful tool for personal and professional development. The Cybermentor program, which is a collaborative effort of the University of Calgary, the University of Alberta and the Alberta Women's Science Network, operates completely digitally. The program, over ten years old, matches female scientists, engineers and Alberta University Science and Engineering students with girls between the ages of 11 to 18. The program helps to expand the younger women's knowledge of career possibilities. In addition, it serves as a mechanism by which the working scientists can serve as role models to the mentees, encouraging them to continue studying math and science.

More than half of the mentees in the Cybermentor program choose to pursue a degree in engineering, and many become program mentors once they are in the schools. As a result, participating schools, such as the Schulich School of Engineering and the University of Alberta, have higher-than-average female enrollment rates of close to 25%. According to the director of the program, "Mentoring simply works and cybermentoring is just an effective way to extend that experience" (Kenter, 2010, p.19).

Hewlett-Packard has a successful virtual mentor program in which adults and students can establish meaningful and mutually-beneficial relationships via e-mail and the phone (Rao, 1999; Robb et. al., 1997). A variety of high-tech corporations including AT&T, Intel, IBM, Merck, Motorola, Oracle and Microsoft have provided the mentors for the female engineering students (Pritchard, 1998).

7. THE POSSIBLE, PROBABLE, AND THE PROBLEMATIC

Companies will increasingly be tempted to transform their formal mentor programs into programs that either partially or totally employ virtual technologies as interface modalities. The aforementioned factors, such as the emergence of the multinational corporation, the tendency of companies to be more geographically dispersed, as well as the increase in employee telecommuting will mandate that companies utilize cyber-technology for all communications between employees. Mentoring is just one more interpersonal interface that will "go cyber".

Before corporations rush headlong into this process, however, they ought to examine the potential as well as the limits of virtual mentoring.

For instance, it is plausible that information sharing and teaching between mentor and protégé can be achieved via phone, e-mail, and webcam. Moreover, the mentor can use such technologies to communicate to the protégé his or her insights into organizational culture and politics. In addition, personal counseling, confidence building, and other affective activities can be engaged in electronically. This has been demonstrated in fields outside of organizational management, such as psychotherapy (Blair, 2000). Career and life coaches are successfully using virtual technology in their practices. According to one coaching journal, "Cyber coaching has gained in popularity, through necessity. Using technology to coach executives is a natural progression in professional development" (Lawrence, 2000). Some researchers use the term "telecoaching" to describe this phenomenon (Lewandowski, 2000).

More problematic, however, are many developmental activities typical of many mentor relationships. For instance, some mentors in traditional programs invite their mentees to physically shadow them for the day while the mentors pursue their daily routine of hiring, planning, budgeting, and dealing with clients and colleagues. It may be difficult for the mentee to "shadow" the mentor within the limits of cyberspace.

In cyberspace, other activities which require the physical presence of mentor and protégé might be unachievable. Some mentors in traditional programs bring their mentees into staff meetings so the mentee can witness the process of establishing a meeting agenda and achieving group consensus. The mentee can question the mentor afterwards about the fine points of successfully running such a meeting. Cyberspace does not permit the successful execution of this mentor function, as of yet.

Virtual mentoring limits some other mentor-mentee activities, such as networking and in-person sales training. Moreover, the various aspects of interpersonal communication enabled by the power of body language is largely absent in the e-mail and telephone-based mentor relationship.

The research suggests that organizations can take several steps to enhance the experiences of participants in the virtual mentor program and insure the success of a program.

First, virtual mentoring programs should incorporate facilitators to help manage the program and shepherd the relationships. In the virtual mentoring relationship, the mentor and protégé might never physically meet. Therefore, a live facilitator may have to serve as an arbiter, ombudsman, or intermediary between mentor and protégé to solve any problems or conflicts between the program participants.

Second, participants should receive a thorough grounding in the electronic arts. Part of the success of the program will depend on the ability of the participants to master the electronic communications technology the program provides for the mentor-mentee interface. Before the participants begin actively interacting, each should be thoroughly trained in the effective use of webcams, iPods, or other electronic devices. Moreover, we cannot assume that all participants in a virtual mentor program are comfortable substituting electronic communication for human interfaces. A recent study of women participating in a virtual mentoring program found that demographic factors, such as age, education, and profession determined their attitudes toward virtual mentoring. Women who were younger, less educated, and self-employed were most accepting of online mentoring. Older female professionals were not as accepting of this technology (Gibson, 2008).

Third, participants should be encouraged to exchange profiles. In a cyber-based mentor program, the mentors and mentees may never actually physically meet. Therefore, each must convey their personalities electronically, often simply through text-based communication modalities. Many programs therefore suggest that each member of the mentor dyad provide each other highly-detailed autobiographies, text-based descriptions of themselves, their histories, personality quirks, lifestyles, etc. In this way each participant can gain insights into the person he or she may never actually meet in the flesh.

Fourth, program administrators ought to inform the virtual mentor program participants as well as the applicants the program's expectations about the suggested frequency of communications between the participants.

Fifth, it should be decided whether face-to-face interaction is encouraged or permitted. Program designers and administrators must determine whether it is desirable for participants to interact in person, and when such an interface will occur. Many virtual mentoring program administrators have stated that they feel that in-person interaction frustrates the goals of the program, which is to facilitate a mentor relationship through electronic communication.

8. CONCLUSION

There is no doubt that virtual mentor programs have clear advantages over the traditional programs. They enable participants in different states and on distant continents to be linked in mutually beneficial relationships that contribute to the personal and professional growth of both mentors and protégés. It expands mentor program participation beyond those employees fortunate enough to be situated in a company's central office or headquarters. Now, the salesperson, the company's "road warriors," and the telecommuting employee have the opportunity to enjoy the benefits of a mentoring.

However, less clear is the future shape and direction of virtual mentoring. While there is no doubt that electronically-mediated mentoring of some sort is the wave of the future, it is difficult to predict what actual technologies will be used as a communication modality in such programs.

Much will depend on the development of new technologies. Currently, one of the most utilized communication technologies in modern society is the iPod and Blackberry texting devices. We

cannot deduce from their current general acceptance, however, that mentors and protégés will choose this type of device to communicate with each other, regardless of how much they depend on such devices for their daily personal communication. There are limits to what kinds of human interactions can take place via texting,

The success of virtual mentoring will ultimately depend on the ever-increasing sophistication of electronic communication devices. It is likely that technologies that most mimic live human interchange will become the basis of all future cybermentoring interactions. We are getting closer to the point where the cyber experience mimics the live interface. Skype, WebEx, and a host of similar technologies are making that a possibility.

However, as I have stated in earlier works, the future of cyber communication, in both personal and professional exchanges such as those in formal mentor relationships, is virtual reality, or VR (Zey, 2000). This technology, a state-of-the-art three-dimensional interactional experience, when finally perfected will revolutionize human interaction and impact the quality of all relationships, including the interchanges between mentor and protégé. Currently VR is being used by the United States Air Force in flight training, and many hospitals are using VR to train budding surgeons to perform heart and brain surgery (Zey, 2007).

VR technologies promise to add a more tangible and sensate “feel” to our cyber interfaces. Users will have the capability to achieve a sense of human intimacy hitherto unknown in technologically-based communications. When virtual reality is finally perfected, all types of meetings, including the mentor-protégé interface, will be possible even if the meeting participants are separated by miles or continents.

At that point, corporate formal mentor programs will most assuredly enter a new golden age.

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