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Restructuring Cary Quadrangle's Mentoring Program

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College of Technology

Restructuring Cary Quadrangle's Mentoring Program

In partial fulfillment of the requirements for the
Degree of Master of Science in Technology

A Directed Project Report

By

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Abstract

Cary Quadrangle, a residence hall at Purdue University, had suffered a decline in the effectiveness of its formal mentoring program for the last three years. Knowledge was not being transferred from mentor to protégé at the levels management expected and when mentors were trained they were told how important the mentoring program was, yet they were given no resources, goals, or tools to be successful. The program risked having negative consequences on the credibility of management or being cancelled completely if the program continued on its trajectory. The following initiatives were researched and implemented to improve quality and turn the program around. First, a literature review was undertaken to develop and define a list of formal mentoring program best practices. Second, a survey was administered to the resident assistants of Cary to identify the gaps between Cary's mentoring program and the established best practices. Third, a restructuring plan was developed and implemented to fill the gaps identified in the survey. Finally, a follow-up survey of the resident assistants was conducted to measure the success to which the gaps were filled. In conclusion of the aforementioned research a final paper was written and presented detailing the results of the literature review, surveys, and restructuring plan.

Introduction

Mentoring has existed since ancient times. The term originated from the Greek poem the *Odyssey* by Homer. In the story, a boy named Telemachus was left by his father to the care of a man named Mentor. The expectations of Telemachus's father were that Mentor would teach, guide, and offer wisdom to his son (O'Neill, Wagner, & Gomez, 1996). This arranged dyadic mentoring relationship can be found in the modern workplace often taking the shape of a formal

mentoring program (Laband & Lentz, 1995).

A formal mentoring program, also known as facilitated mentoring, is one in which an organization arranges and requires mentoring relationships. Laband and Lentz (1995) found that mentor-protégé relationships existed in as high as seventy-five percent of industries and occupations. Seirbert's (1999) research also found that companies saw value in facilitated mentoring programs and hence mentoring programs were beginning or growing in both the private and public sectors. It was important, though, that when companies implemented such programs they did so with caution. Not all formal mentoring programs were created equally or yielded the same consistent success. Evidence of how much variability can exist in a formal mentoring program could be found in Cary Quadrangle's program at Purdue University.

Cary Quadrangle's formal mentoring program had been a part of the resident assistant training regimen for the past 10 years. In an interview with Bob Brophy, current manager of Cary Quadrangle, in May of 2009 he explained who resident assistants were, how many were hired each year, and the current status of the mentoring program. He stated that resident assistants, or RAs, were upperclassmen that were chosen to ensure the safety and security of residents living in Purdue University's residence hall system. Every year in August Cary Quadrangle generally hired between fifteen and twenty new resident assistants, depending on turnover, to field a total staff of thirty. This equated to a ratio of between one or two new RAs for every returning RA. During the two-week intensive training of resident assistants in the month of August each new RA was paired with a returning RA as part of the formal mentoring aspect of training. The formal mentoring program's success had been waning over the past decade. Specifically, the amount of knowledge being transferred from mentor to protégé, according to Mr. Brophy, had been diminishing year over year. Management dedicated less time each year to training mentors while

other aspects of the training regimen had taken a higher priority. Additionally, resources to help mentors be successful, such as providing mentors with a place to meet with their mentees, were non-existent. Making the program successful again was the primary focus of this research.

Statement of the Problem

Thorndyke, Gusic, and Milner (2009) showed mentoring to be a central component of professional development in the workplace. Research on formal mentoring as professional development had evolved over the last decade, however, Cary Quadrangle's mentoring program had not. Every year during the training of new RAs new modules were added to the training regimen that resulted in the mentoring program getting less and less attention. A one-hour block of time was used to explain, train, and set the expectations of the entire mentoring program. The one-hour rushed nature of the training session had resulted in mentors and mentees not understanding even the basics of what was expected of them in the mentoring program. If management continued the decline in dedication of time and resources to the formal mentoring program the program ran the risk of being discontinued and all value generated by mentoring the new hires would be lost. Management could reverse the decline in the program by allocating time and resources to restructuring the formal mentoring process so that it reflected current formal mentoring best practices.

Significance of the Problem

In preliminary interviews Cary Quadrangle's resident assistants stated management's lack of dedication to the formal mentoring program had left mentors with a mixed message about the program's importance. It was perceived what management said and what management did was not the same thing. When training started mentors were told how important the program was, yet from that point on they were given no resources, goals, or tools to be successful mentors. Over

time this had the potential to lead to significant problems if the veteran resident assistants began to question management's credibility. New hires would be potentially mentored to view what management said with a sense of skepticism.

The culture of an organization is often intangible, but mentoring can be a primary source of how new hires learn about the culture. Hobson, Ashby, Maderez, and Tomlinson (2008) found that mentoring socialized new hires and taught them the norms, standards, and expectations of an organization. If Cary Quadrangle had continued to neglect its mentoring program with a lack of direction then management may have unknowingly propagated a culture in which new hires view management as unwilling to support them. If restructured to fall in line with mentoring best practices, it could be reasonably assumed management would be viewed as willing to support the initiatives they mandate and gain credibility amongst those who report to them. For this reason it was crucial that research be conducted to find the gaps in Cary's mentoring program and to restructure it to be in line with current formal mentoring best practices.

Statement of Purpose

The research proposed was to define the best practices of mentoring relationships, find the gaps in knowledge transfer of Cary Quadrangle's current formal mentoring program, and then develop a restructuring of the program that would bring it in line with current best practices. Following implementation a survey was taken and contrasted to the survey of last year's resident assistants to see if any significant progress had been made. A final report was written to discuss the results of the restructuring and implementation. All of this was done from a quality improvement perspective to increase the knowledge transfer between mentor and mentee.

In order to find current best practices within the field of formal mentoring a literature review was conducted. The findings of this literature provided the basis for the survey, which

was conducted to find the gaps in Cary Quadrangle's mentoring program. Once gaps were identified a restructuring program was developed to fill these gaps. The restructuring plan was derived from the best practices literature review and the survey data of resident assistants who had been through Cary's mentoring program in the previous year.

Definitions

- Mentor - A person who took interest in your career and who guided or sponsored you.
- Mentee - A person who is being mentored. Also known as a protégé.
- Dyadic Mentoring - A mentoring relationship between two people, a mentor and a mentee.
- Formal Mentoring Program - A mentoring program in which an organization arranges mentoring relationships.
- Resident Assistant - An individual over the age of 21 employed by the university residence halls who is responsible for the safety and security of residents living in the residence halls along with maintaining an environment conducive to residents' sleep and study.

Assumptions

The research assumed that Cary Quadrangle would be open to dedicating the time and resources to the research and restructuring of their formal mentoring program. During the conceptual planning of the research, an interview was conducted with the manager of Cary Quadrangle in which he stated that he was open to the idea of restructuring the program. A second important assumption in the research was that the resident assistants of Cary were open and receptive to improving the mentoring program. Finally, since the participants in the study were aware of a study being conducted there could be concern of the Hawthorne Effect having an effect on the efficacy of the data collected. The researchers determined this effect to be negligible as the participants were in no way being watched or having their progress followed,

but were instead being asked to self-report through pre and post surveys.

Delimitations

The research was conducted through surveys available to participants over the internet. The survey was restricted to participants over the age of 18. Given that resident assistants must be over the age of 21 to be employed by the residence halls, there was no concern of anyone under the age of 18 participating in the study. The survey was only available to resident assistants who worked at Cary Quadrangle in the past year. This was done to maintain consistency in the data. If resident assistants from previous years were added to the survey pool then it would add extraneous variables out of the researchers control such as the variability in how the formal mentoring program was implemented one year over another. Also, whether or not similar programs existed at the other residence halls was not examined. Finally, the survey was limited to ten questions to gain the highest response rate and avoid survey respondent fatigue.

Limitations

Formal mentoring programs exist in many residence halls at Purdue University and across the country however, the scope of this study was limited to only Cary Quadrangle's program. Each hall had its own set of variability and unique gaps. Due to time and available resources, it would be unrealistic to study and develop a restructuring plan for each hall. Although the methodology and work done for Cary Quadrangle is not generalizable to other residence halls it would be available to other halls and could be implemented there if management so desired.

Literature Review

Introduction

In 1979, Roche defined a mentor as “a person who took interest in your career and who

guided or sponsored you.” Roche's definition is important in building the framework upon which mentoring, specifically formal mentoring, is viewed. A formal mentoring program, also known as facilitated mentoring, is one in which an organization arranges mentoring relationships. The programs are often designed to offer support to junior employees or new hires so that they can become acquainted with the organization's systems faster. Laband and Lentz (1995) found that mentor-protégé relationships exist in as high as seventy-five percent of industries and occupations. Seibert's (1999) research also found that companies are seeing the value in facilitated mentoring programs and hence mentoring programs are being implemented in both the private and public sectors.

A successful program has many benefits. Companies can use facilitated mentoring to support diversity initiatives, enhance retention, improve communication, and facilitate knowledge transfer (Friday & Friday, 2002). It has been shown that employees who have had a mentor earn more and climb the corporate ladder faster than those who do not (Valeau & Boggs, 2004), (Laband & Lentz, 1995). How does one ensure his or her mentoring program yields characteristics like these? Specifically, what are the characteristics of facilitated mentoring programs that yield high mentor and protégé satisfaction? These are important questions because when answered, they provide an insight into the characteristics that make up the most successful mentoring programs.

Methodology

In order to find which characteristics yielded the highest mentor and protégé satisfaction a literature review was conducted. Using Academic Search Premier and PsychInfo, searches were done using variations of the key terms MENTOR PROGRAM and MENTOR EVALUATION. This resulted in hundreds of articles. A parameter was then put in place to show

only articles published from the years 1995 to 2009. This was done so that only the most current articles would be displayed. After reading the abstracts of the literature found the articles were limited to those that were relevant to this review. In the end, ten articles that described or evaluated organizational mentoring programs remained.

During the course of the literature review, an article was found that had not been included in the ten documents described above. The article listed the *Twelve tips for developing effective mentors* (Ramani et al, 2006). The paper provided a starting point for setting the framework for what would eventually become the eight characteristics found to be present in mentoring programs that produced high mentor and protégé satisfaction. The article documented the best mentoring practices as discussed at an academic conference as well as pulled information from relevant published articles. It was an excellent resource in pinpointing what were definable characteristics of a mentoring program.

The findings were based on a literature review of ten articles published in refereed academic journals. The articles described or evaluated a formal mentoring program. The papers represented a wide range of mentoring programs covering both the public and private sectors. The programs evaluated could be divided into five distinct categories being education, medical, at-risk youth, Fortune 100, and disabilities.

In the education category, two of the three programs evaluated focused on the mentoring of faculty in higher education (Wasserstein et al, 2007; Valeau & Boggs, 2004). The third article evaluated a mentoring program focused on new teachers as they started a career in elementary education (Fairbanks et al, 2000). Within the medical field both papers reviewed dealt with the mentoring of new doctors and nurses (Buddeberg-Fischer & Herta, 2006) (Roberts, 2006). The two papers on at-risk youth both evaluated mentoring programs that focused on pairing adults as

mentors to students (de Anda, 2001) (Sorrentino, 2006). In the Fortune 100 category, one program focused on mentoring new lawyers joining law firms and the other focused on new engineers joining a Fortune 100 company (Laband & Lentz, 1995) (Seibert, 1999). Finally, the disabilities category represented an evaluation of a program designed to pair adult mentors diagnosed with cerebral palsy with youth who had the same disease (Cohen & Light, 2000).

Literature Review Findings

Each article reviewed generally summarized the program they evaluated, but specifically covered what aspects of the program contributed most to their success. The following findings were the characteristics found to contribute most to mentor and protégé satisfaction. They were chosen if the characteristic appeared in more than three of the articles or if the researchers who wrote the article strongly suggested a certain characteristic made a significant contribution in making for high mentor and protégé relationship satisfaction.

Clear Expectations

The first characteristic found was the importance of setting clear expectations. For instance, programs that were successful set expectations for how long the relationship would last. In Seibert's study (1999) the company set the expectation that mentors and protégés would meet on a regular basis for at least one year. In the medical mentoring case studies the relationships were set up with very clear expectations of how long the relationship would last and with what frequency the pairs would meet (Buddeberg-Fischer & Herta, 2006) (Roberts et al, 2006).

Giving mentor's and protégés clear expectations for what the organization expected of their relationship gave mentors and protégés a more concrete foundation with which to build their relationship. At a senior mentor program at USC the senior citizen and student mentor program gave mentors and protégés such clear expectations for their relationship that the

program was able to be integrated into the student's curriculum (Roberts et al, 2006). Knowing what was expected of the relationship added a level of security since the purpose of the relationship was defined by the formal mentoring program. This in turn helped yield higher mentor-protégé satisfaction.

Mentor Training

Providing training for mentors was a consistent theme amongst almost every mentor program reviewed. Some took the form of an orientation session where mentors were familiarized with the program and the program's expectations of them (Roberts et al, 2006) (de Anda, 2001). During these orientation sessions mentors would be briefed on all aspects of the formal mentoring program. They would also be given the chance to ask any questions they may have had about being a mentor. An orientation session often took on the feel of a hybrid between a training session and a welcoming introductory event.

Another form mentor training took on was that of a traditional training session. For instance, when mentoring at-risk youth the mentors who received formal training stayed motivated and helped lead their mentor-protégé relationships in many positive directions. To be specific, those with training helped the youth increase productivity, self-efficacy, professional identity, and career satisfaction (Sorrentino, 2006).

Finally, one program had a unique training environment that no other program had. The mentors and protégés attended a monthly workshop where they identified characteristics of effective mentoring. Essentially the pair trained together once a month throughout the duration of their relationship. During the training sessions mentors and protégés were encouraged to share their experiences so far and reflect on what was working and what was not (Fairbanks et al, 2000).

Mentor training can take on many forms. In each mentor program the training provided to mentors was always tailored to meet their needs based on the unique characteristics of the work environment or industry. It is important to note that training was almost universal among all the programs reviewed. This speaks highly to its importance in determining mentor and protégé relationship satisfaction since the better trained the mentor was the more prepared they were in mentoring.

Mentor / Protégé Pairing

Pairing mentors and protégés together may sometimes seem more like an art than a science. In the review of programs there was a multitude of different ways in which mentors and protégés were paired together. The reason mentor and protégé pairing was listed as a characteristic in helping achieve relationship satisfaction was not because there was a universal answer to pairing, but because all but two programs had a reason for pairing the way they did.

When pairing new engineers with a mentor one company held a social gathering where they could interact with potential mentors and then pick the one with whom they felt they would work best. This put the responsibility of pairing on the protégé's shoulders. If after the social the protégé couldn't find a mentor then the company assigned them one (Seibert, 1999). In a different mentoring program where mentors and protégés with muscular dystrophy interacted they were paired based on age, interest, personal skills, strengths, and areas they were seeking assistance or support. The notion was that by pairing mentors and protégés who had specific things in common there was a better chance the relationship would be successful. This method proved to provide an excellent launch pad for starting the relationship, however, it did not have a high influence on the final outcome of mentor-protégé relationship satisfaction (Cohen & Light, 2000). One area in which more research is required is in how personality matching determines

the effectiveness of a mentoring relationship. In two programs the researchers noted that personality could be an important aspect of what determines relationship satisfaction (Cohen & Light, 2000) (de Anda, 2001).

How an organization chose to pair its mentors and protégés ranged from completely random to protégé-initiated to being assigned based on specific characteristics. In each program reviewed, the way in which they were paired was done for a reason specific to the mentoring program's environment. Therefore, it can be reasoned that there was no universal method of pairing that yielded the best results, but rather the way in which an organization paired should be conducive to the industry or environment the mentoring will be occurring in.

Goal Setting

A fascinating statistic was put forth in Cohen and Light's (2000) research pointing to the power of goal setting. Of the four mentoring pairs, two set specific and clear goals for the mentoring relationship while the other two pairs never gave themselves any specific goals. At the end of the mentoring program the protégés of the two dyads who set goals both answered yes to the question "Was the program helpful in meeting your personal goals?" The other two protégés responded with a no. The dyads with goals reported far higher relationship satisfaction than those who did not.

A second mentoring program reviewed gave further evidence to the power of goal setting when mentoring at-risk youth. When youth with low GPAs were paired with a mentor who helped them set goals for getting better grades their GPA as a group rose from an average of 1.64 to 2.37. This was compared to youth who were simply paired with a tutor. The tutor group's average GPA actually fell from 1.89 to 1.80. Essentially, the tutor group's GPA went unchanged while the group with a mentor who helped them set goals saw a statistically significant rise in

GPA score (Sorrentino, 2006). Clearly, setting goals is a characteristic to strongly consider when designing a formal mentoring program since it can have a strong positive impact on how successful a mentor-protégé relationship is.

Psychological Contracts

The term "psychological contract" comes from Seibert's (1999) research of new engineers being paired with a mentor within a Fortune 100 company. In the mentoring program he described how mentors and protégés would form a psychological contract to meet a certain number of times a month over the course of a year. After that year the contract would expire and the pair could choose to renew or terminate the agreement. The importance of this being that mentors and protégés knew there were certain expectations of their relationship and they agreed to meet those expectations through a psychological contract. A written legal contract does not make sense when approaching a mentoring relationship, but Seibert's psychological contract could certainly improve the chance mentors and protégés achieve the expectations set forth by the formal program.

Organizational Support

Organizational support ranged from the commitment of company executives to foster a culture that promoted mentoring to a company providing financial resources for a mentoring program. One thing was true and that was when there was not financial or executive support of a mentoring program there was no evidence to say a program could be successful. When a formal mentoring program was introduced at USC the administration found that a half time professional was needed to manage the program (Roberts et al, 2006). If the professional had not been hired then the program would have fallen apart for logistical reasons and mentor-protégé relationships would not have been satisfactory.

When Laband and Lentz (1995) studied the mentoring of new lawyers they found that companies who invested in providing mentors for their new hires had statistically significantly higher retention and job satisfaction. Lost productivity from senior lawyers mentoring while at work was absorbed by the parent company. The organizational support and executive commitment to providing mentors a time to meet with their protégés resulted in high mentor-protégé satisfaction.

Mentor Screening Process

How does a formal mentoring program recruit mentors? In many of the programs reviewed, protégés were simply a class of new students or new hires, but when it came to mentors there was not a simple way to identify them. Mentors often came from all departments of a company or institution. Most importantly, mentors were selected based on qualifications and their desire to mentor a protégé. In Seibert's (1999) study of a Fortune 100 company, he found that the company first identified a pool of potential mentors and then asked if they would like to volunteer for the position. No one was ever required to be a mentor.

When working with at-risk youth de Anda pointed out that the volunteer mentors should be "carefully screened and selected." She also noted that eligibility criteria should be established based on the characteristics of the program and youth. It was clear that having a mentor screening process could increase the quality of potential mentors. Thus, by having a higher quality mentor pool there was a better chance the mentor-protégé relationship would be satisfactory.

Evaluation of Relationship and Program

Evaluation is the process by which every program collects data on itself. The data are then used to judge the effectiveness of the program based on criteria established by management.

It could be argued the evaluation of the relationship and program was the most important characteristic. It was the only one to be present in all ten of the research articles reviewed. Buddeberg-Fischer and Herta (2006) noted a standardized way of evaluating formal mentoring programs did not exist yet. Note that without an evaluation long-term success cannot be determined.

The ACCCA, Association of California Community College Administrators, has had a formal mentoring program since 1988. Since day one they have had an evaluation process in place for both the mentor and protégé at the end of their relationship (Valeau & Boggs, 2004). Thanks to the evaluation process, the mentoring program has had data to make strategic decisions that have resulted in the programs consistent growth.

In de Anda's (2001) work on mentoring at-risk youth, she specifically pointed out that evaluations should include both qualitative and quantitative methods. The qualitative methods capture the participant's perspective while the quantitative methods are used to capture specific key variables such as GPA increase or career achievement. Using both methods helped executives have a clear picture of how successful their formal mentoring program was. The data can then be used to improve the program over time, which should result in continued increases in mentor-protégé relationship satisfaction.

Conclusion

The literature review found eight characteristics that pointed to having a strong influence on the effectiveness of mentoring programs. These eight characteristics were used as the benchmark for determining where the gaps in Cary's mentoring program were. The eight characteristics were in no way, however, an exhaustive and complete list of all characteristics that influence the effectiveness of a mentoring program. As more case studies on mentoring

programs are published more thorough research needs to be done to further build and refine the list of mentoring program characteristics which yield the highest mentor / protégé satisfaction. This will lead to a better understanding of the building blocks that make a highly effective mentoring program.

Methodology

The research required a literature review, two surveys, and the drafting of a restructuring plan. The literature review provided the foundation upon which the surveys and restructuring plan were developed. The goal of the review was to do a meta-analysis of formal mentoring research and develop what academics have come to view as the best practices for establishing and maintaining a successful formal mentoring program. Once these best practices were established they were contrasted with the formal mentoring program at Cary Quadrangle.

In order to determine the areas in which Cary Quadrangle was below the best practices set forth in the literature review a survey was distributed in May of 2009 to the resident assistants of Cary Quadrangle. The survey asked the resident assistants to identify whether the best practices established were present or not in the formal mentoring program they went through. The gaps the resident assistants identified were then used to develop a restructuring plan, which was implemented during August of 2009 for the new 2009 class of resident assistants. The goal of the restructuring plan was to fill the gaps of Cary's formal mentoring program so that it was in line with the best practices established in the literature review.

After implementing the restructuring plan the survey given to the 2008 class of resident assistants was given again, but this time to the 2009 class of resident assistants. The results of the second survey were contrasted with the results of the original survey to develop conclusions on the effectiveness of the restructuring implementation.

Findings

Introduction

Table 1 outlines the findings of the research based on the results of the survey given to the 2008 and 2009 classes of resident assistants at Cary Quadrangle.

Table 1 <i>Survey Results</i>				
Question	Answer	2008 n=18	2009 n=27	p-value p < .05
1. Were clear expectations set for you as a mentor or mentee on how frequently you should meet?	Yes	10	26	0.0030
	No	8	1	
2. Answer this if you were a mentor: Did you receive training on how to fulfill your role as mentor?	Yes	3	9	0.7085
	No	3	2	
3. Answer this if you were a mentee: Do you feel your mentor was qualified to fulfill their role as mentor?	Yes	10	15	0.8715
	No	3	2	
4. Do you feel you were purposefully paired with your mentor or mentee?	Yes	5	20	0.0022
	No	13	7	
5. Were specific goals set for what knowledge should be transferred in your mentoring relationship?	Yes	6	22	0.0011
	No	12	5	
6. Were you given an expectation for how long the mentoring relationship should last?	Yes	4	23	0.0001
	No	14	4	
7. Did you feel as though Cary gave full organizational support to the mentoring program?	Yes	4	22	0.0010
	No	13	4	
8. Prior to this survey were you ever asked to give feedback about the mentoring program?	Yes	1	11	0.0263
	No	17	13	

The total population of resident assistants each year was thirty which meant the 2008 survey had a 60% response rate and the 2009 survey had a 90% response rate. Both the 2008 and 2009

surveys were open for the period of one month and were administered over the Internet. Three emails were sent out to the resident assistants and asked for their participation. The difference between 2008 and 2009 was that the 2009 class of resident assistants participated in the restructured version of the mentoring program while the 2008 class did not participate in the restructured version. The survey data from 2009 reflects responses from the resident assistants one month after having gone through the restructured mentoring program.

Methodology

The data collected were analyzed using the chi-square statistic as outlined by David Moore and George McCabe in their book *Introduction to the Practice of Statistics* (2009). The chi-square statistic was used as a test of independence to determine if the presence of the eight characteristics in the 2009 data were independent of the 2008 data, which were prior to the mentor program restructuring. Due to survey questions one, two, three, six, seven, and eight having response frequencies of less than five for certain categories Yates' chi-square test was used. Yates' chi-square statistic is used when a category within the chi-square test contains a frequency of less than five. The use of Yates' chi-square statistic increases the given p-value, which lessens the chance of falsely rejecting the null hypothesis also known as a Type II error.

The literature review established eight characteristics that were key ingredients to a successful mentoring program. Each question on the survey was designed to measure whether the Cary mentoring program had implemented a specific characteristic. The first question on the survey asked if clear expectations had been set on how frequently the mentor and protégé were to meet. This question was specifically measuring whether clear expectations were a part of the Cary mentoring program. Since the frequency of "No" responses to the 2009 survey were one, which was less than the required frequency of five to use a traditional chi-square statistic, Yates'

chi-square was used to determine independence. Yates' chi-square yielded a chi-square statistic of 8.802 which given the one degree of freedom yielded a p-value of .003. The p-value of .003 was less than the established p-value of .05 used to determine significance which meant the null hypothesis, the presence of clear expectations in Cary's mentoring program was independent of the restructuring, was rejected. In essence, this meant that the restructuring of Cary's mentoring program was effective in setting clear expectations for mentors and their protégés. This process was carried out for the remaining seven questions.

In Table 1 the fourth column shows the results of the survey from 2009. The data were collected exactly one month after the implementation of the restructured mentoring program. After analyzing the data the results of the survey showed that significant progress, with 95% confidence, was made on all eight characteristics except one. Using the chi-square statistic, and Yates' chi-square where appropriate, questions one, four, five, six, seven, and eight all showed significant change with a p-value of less than .05 between 2008 and 2009. This meant clear expectations, mentor/protégé pairing, goal setting, psychological contracts, organizational support, and evaluation of the program were all brought into Cary's mentoring program during the 2009 training. Since no changes were made to the program other than the implementation of the restructuring plan it can be reasonably assumed that the restructuring plan was the primary change agent.

Results

Question one saw significant change from 2008 to 2009. Using Yates' chi-square statistic a p-value of .003 was derived which was below the .05 threshold set forth in this study as the benchmark for determining significance. Question one measured the clear expectations

characteristic. The 2008 result showed a nearly even split between respondents saying “Yes” and “No” to whether clear expectations had been set. In 2009, however, the overwhelming majority of respondents said “Yes” to the fact that clear expectations had been set. The reason for this significant change was hypothesized to have been caused by the restructuring plan implemented in the 2009 training of mentors and protégés. During the restructured training in 2009 mentors and protégés were instructed through both a PowerPoint Presentation and through a handout that the pair were to meet once a week for four weeks. This clear expectation on how frequently to meet had previously not been a characteristic of the Cary Mentoring Program and was hypothesized to be the catalyst for the significant change in responses from 2008 to 2009 in the survey.

Questions two and three both measured mentor training. Using Yates’ chi-square statistic, p-values of .7085 and .8715 were derived for questions two and three respectively. The derived p-values meant that neither question saw significant changes in their responses between the years 2008 and 2009 when compared to a benchmark p-value of .05 for determining significance. The lack of change was hypothesized to occur because of the fact that mentor training was not a part of the restructuring process. During the implementation of the restructuring only one hour was allotted by management for informing both mentors and protégés together on the entire mentoring program. This meant training mentors was not feasible due to the time constraint imparted by Cary’s management.

Question four measured whether respondents felt they were purposefully paired with their mentor or protégé. Using the chi-square statistic a p-value of .0022 was derived which was below the .05 threshold set forth in this study as the benchmark for determining significance. In 2008 only 27% of respondents said they felt they were purposefully paired while in 2009 just

over 74% of respondents said they felt they were purposefully paired. The reason for this statistically significant change was hypothesized to be caused by the restructured mentoring program. In the restructured Cary Mentoring Program each mentor was specifically paired with a protégé from the mentor's neighboring residential unit based on managements input. Before 2009 according to Bob Brophy, residential life manager of Cary Quadrangle, mentors and protégés were paired at random.

Question five, like questions one and four, also saw significant change between the years 2008 and 2009. Using the chi-square statistic a p-value of .0011 was derived which was below the .05 threshold set forth in this study as the benchmark for determining significance. Question five measured whether goal setting, specifically in the context of knowledge transfer, was a part of the Cary Mentoring Program. In 2008, 33% of respondents said "Yes" when asked if specific goals for knowledge transfer had been set while in 2009, 81% of respondents said "Yes". The reason for the significant change was hypothesized to be caused by the fact that in 2009 mentors were given a list of specific pieces of knowledge they were expected to teach their protégés. For instance in week one of their relationship mentors were asked to teach protégés how to organize and put together an event for their floor residents. In week two they were asked to jointly plan an event and in week three the two were to put the event on for the protégés residents. Prior to 2009 no such goals for knowledge transfer were set.

Question six was intended to measure whether psychological contracts were a part of the Cary Mentoring Program, however, given the question's wording it more specifically measured if the mentoring relationship was given a defined expected time length. A psychological contract could have been used as a way to encourage mentors and protégés to stay together for a given period of time, but this question did not specifically measure that since the question only asked if

an expectation of a time length was given. Using Yates' chi-square statistic on the frequency of responses from question six a p-value of .0001 was derived which was below the p-value of .05 set forth in this study as the benchmark for determining significance. The significant change from 2008 to 2009 was hypothesized to be caused by the fact that prior to 2009 mentors and protégés were never given a defined period for which their relationship was expected to last. In the restructured mentoring program in 2009 the pair was asked to maintain their relationship for exactly one month after which time if they wished to continue they could, but were in no way obligated to. It should also be noted that in the restructured mentoring program mentors and protégés were asked to make a psychological contract to uphold this expectation. It is unknown whether this had any effect on the relationships, though, as no question on the survey directly measured psychological contracts.

Question seven saw significant change from 2008 to 2009. Using Yates' chi-square statistic a p-value of .0010 was derived which was below the p-value of .05 set forth in this study as the benchmark for determining significance. Question seven measured organizational support for the mentoring program. The 2008 result showed only 22% of respondents saying they felt Cary gave full organizational support to the mentoring program while 2009 saw the response grow to 81%. Before 2009, according to Bob Brophy, Cary's management didn't follow up with mentors and protégés on how their relationship progressed and if knowledge was being transferred. He said it was assumed things were going smoothly between mentor and protégé unless one or the other approached management regarding the mentoring relationship. Starting in 2009 under the restructured mentoring program unbeknownst to the mentors and protégés each pairing was assigned to a member of management. Each week Cary management was to drop an email to the mentors and protégés to make sure goals were being met and that the relationship

was progressing smoothly. This action was intended to boost the perception that Cary was supporting the mentoring program and to alert management to any problems so they could be dealt with appropriately. These changes were hypothesized to be the reason for the significant change from 2008 to 2009.

Question eight measured whether respondents had ever been asked to evaluate the mentoring program. Using Yates' chi-square statistic a p-value of .0263 was derived which was below the p-value of .05 set forth in this study as the benchmark for determining significance. In 2008 only 5% of respondents said they had been asked to evaluate the program while in 2009 just over 40% of respondents said they had previously evaluated the program. The reason for the statistically significant change was hypothesized to be caused by the implementation of this study. In 2008 only one respondent said they had been asked to evaluate the program. In 2009 this number grew to eleven respondents, which was exactly the number of veteran resident assistants who had worked in 2008 and had the opportunity to take the 2008 survey. It was also hypothesized that the reason so many respondents said they had never been asked to evaluate the mentoring program in 2009 was because new resident assistants would have never been given the chance.

In the survey data presented there was not a question that focused on the mentor screening process. The reason this characteristic was not measured was because Cary Quadrangle mandated that all veteran resident assistants act as a mentor to a new resident assistant. The management team at Cary Quadrangle was approached about this to see if it was something they would be willing to change, however, management felt that having all veteran resident assistants being a mentor was an important part of the mentoring program. Since no mentor screening process existed before the restructuring and no such process would exist after the restructuring it

was left out of the survey.

Conclusions

Prior to this research being carried out, two gaps existed which have now been filled. The first gap existed within academic research regarding mentoring. Many case studies on mentoring programs had been published, but no meta-analysis of these case studies had been undertaken to determine the characteristics successful programs had in common. This gap in academic research has now been filled with eight characteristics being established in the literature review of this research. The eight characteristics established were clear expectations, mentor training, mentor/protégé pairing, goal setting, psychological contracts, organizational support, a mentor screening process, and evaluation of the program.

The second set of gaps that existed was found at Cary Quadrangle in their mentoring program. It was unknown before this research how many or if any gaps would be found at Cary Quadrangle, but after the initial survey had been implemented it became clear that Cary's mentoring program had areas in which it could improve. A restructuring plan was developed which aimed at filling all but two of the mentoring program's gaps. The gaps that were not filled were mentor training, which was due to time constraints mandated by Cary's management team, and mentor screening, which was due to Cary management mandating all veteran resident assistants be mentors.

Recommendations

One of the main concerns to arise out of this research has been how to ensure that Cary Quadrangle's improved mentoring program continues year after year. Six months after the new mentoring program had been implemented at Cary the management team had completely turned over. With this turnover it was feared that all knowledge gained in the restructuring would be

lost. Due to this concern the researcher has recommended that a central knowledge base be created where the fundamentals of the mentoring program are stored. An example of such a knowledge base would be a custom wiki. A wiki is an open source online tool used to store and manage information. The most famous wiki is Wikipedia.org, the community based encyclopedia. If Cary implemented their own wiki for the use of maintaining expectations and standardizing the facilitated mentoring process then the restructured mentoring program would continue in its original form year after year even though the people within the program change.

A second recommendation of the researcher would be to create an online distance-learning tool for mentors. This recommendation stems from the fact that Cary's management team may not dedicate the time necessary to properly train mentors for the role they assumed. Implementing a distance-learning module to train mentors would give them the chance to prepare for their role prior to taking on a protégé.

Cary Quadrangle faced a unique situation in that it required all of its veteran resident assistants to act as mentors to new hires. This meant that even the worst performing veterans were tasked with mentoring a protégé. Future research should examine whether having historically poor performing employees serve as mentors has any effect on the future performance of protégés. Stated another way, do historically poor performing veterans mentor their protégés to also be poor performers or are they unrelated? In Cary's case since all veterans become mentors the researcher recommends adding questions during the interview process to determine if the future new hire will one day make a good mentor.

Third, Cary Quadrangle's staff should network with the staff of other residence halls to see if similar programs exist. If so, they could share information, potentially strengthening the programs.

The eight characteristics discussed in the literature review as well as the survey utilized in this study can be applied to any mentoring program since their development was not based on any specific traits present at Cary Quadrangle. The restructuring plan, however, was developed for Cary Quadrangle based on the unique gaps present in their program and hence should not be applied to other mentoring programs. It would be advised that research be done to expand upon the eight characteristics and survey to further develop a diagnostic tool that would enhance the ability of management to define the gaps within their facilitated mentoring program and apply solutions to fill those gaps.

Future research should look into the correlation between each of the eight characteristics and its individual effect on knowledge transfer. Each of the eight characteristics was assumed to influence the success of knowledge transfer between mentor and protégé, but the quantification of that influence was not included in the scope of this study. Further research into this area could help shed light on which characteristics have the greatest positive correlation with mentor protégé knowledge transfer success rates.

In conclusion mentoring is becoming a common component of the workplace (Friday & Friday, 2002). In some industries it is regarded as an essential component of success (Ramani et al, 2006) (Wasserstein et al, 2007). If mentoring is going to continue to become commonplace then it would only make sense that we research and try to understand the components that yield successful mentoring relationships. The eight characteristics outlined in this research can help ensure a formal mentoring program that has successful mentor-protégé relationships, laying the groundwork for success.

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