IDENTIFYING ESSENTIAL ELEMENTS OF SUCCESSFUL E-MENTORING PROGRAMS THROUGH NEEDS ASSESSMENT

Christina A. Kasprisin
Peg Boyle Single

ABSTRACT

This chapter presents a literature review on conducting needs assessment prior to developing e-mentoring programs in order to enhance program success. It describes the reasons and rationale for assessing needs along with the areas that should be assessed including: characteristics of the protégé and mentor groups; the needs of the participants; the participants' comfort level with technology; the availability and accessibility of technology; and the expectations of each of them. It then describes how to address identified needs through training, coaching, and group e-mentoring. The chapter concludes with a case study of a needs assessment exercise conducted for newly qualified nurses and shows how the needs identified can be used to design a mentoring program to ease their transition into their first jobs.

Mentoring contracts, whether formal or informal, are gaining popularity within the face-to-face mentoring literature (Zachary, 2000). Likewise, e-mentoring programs are increasing in number and are being used by a greater variety of populations (Bierema & Merriam, 2002; Single & Single, 2004). In thought it is relatively easy to establish such a program. All that appears to be is needed are mentors, e-mail, and individuals who can benefit from an ongoing contact with a more senior individual. However, although simple in concept, a successful e-mentoring partnership is not easy to accomplish and many experience difficulties (Harris, O'Bryan, & Rotenberg, 1996). There are many reasons for this, but one of the most fundamental is that program developers do not include a needs assessment process in the initial planning stages.

Generally, most e-mentoring programs make the assumption that participants are all entering at a similar point in terms of technological ability, levels of communication skills, and expectations in terms of program delivery and goals (Kasprisin, Single, Single, & Muller, 2003). This assumption tends to be false and can cause many problems that will negatively impact program effectiveness. Participants may be unable to adequately engage in the mentoring process because of unfamiliarity with the technology, difficulties in establishing an online relationships, or conflicts about the expectations of the program (Bennett, Hupert, Tsikalas, Meade, & Honey, 1998; Kasprisin, 2003). Conducting a needs assessment prior to beginning a program can aid developers in preventing these problems and help them to determine the types of training and coaching that will be needed, the program goals, and the structural elements that should be incorporated into the program to maximize success.

Successful e-mentoring programs must address the characteristics, needs, and expectations, of protégés and mentors in a number of areas (Bennett et al., 1998; Harris & Figg, 2000). Program developers need to determine unique characteristics of the participants, the participants' capacity to access the technology, and their ability to use it effectively (Friedman, Zibit, & Coote, 2004; National Mentoring Center, 2002). The developers must address the subject matters of interest to them (Harris & Jones, 1999). Finally, programs need to determine and match expectations of protégés and mentors in terms of frequency and types of communications and program goals (O'Neill & Harris, 2000). Having this information will enable the program developers to determine the technology, training and coaching needs of participants, and help establish communication patterns and program goals that meet participant needs.

These issues are described in detail in the sections that follow. We begin with a definition of a needs assessment, its purposes, and the rationale for

using it. This is followed with information about how to address the demographics of the population. Next we address the elements to consider when determining technological abilities and access. The third section deals with how to identify and manage protégé and mentor expectations. The chapter concludes with a description of how to address needs discovered through the assessment process through training, coaching, and group e-mentoring using a case study involving a needs assessment exercise for a mentoring program to support newly qualified nurses entering their first jobs.

ELEMENTS OF A NEEDS ASSESSMENT

In order to change an individual's behavior, knowledge, and/or motivation, it is essential to determine both the starting and ending point of the transformation. This involves conducting a needs assessment that determines where the individual is beginning and the whether he or she has the requisite knowledge to achieve the desired endpoint (Pololi, Dennis, Winn, & Mitchell, 2003). It is our belief that since e-mentoring is being used for many different populations to achieve varying purposes, it is imperative that such assessment be conducted to identify commonalities and areas of deficiency.

Definition and Purposes.

Our definition of needs assessment is that it is a process that identifies the skills and knowledge people require to complete necessary programs and tasks. Applied to a program, this means identifying the planning and programmatic features that are necessary to conduct a successful program.

The purposes of a needs assessment are twofold. First, the program developers need to determine the knowledge and skills of the participants who are beginning the process. Second, they need to identify the programmatic features necessary to implement a successful e-mentoring program.

Considering the Population

E-mentoring programs often focus on either populations who are underrepresented or areas of national needs (Bierema & Merriam, 2002; Ensher, Heun, & Blanchard, 2003). These objectives may include support-

ing women in science and engineering, increasing school students' exposure to science, or boosting the academic achievement of inner-city high school students (Single & Single, 2004), or, as described in the case study later in this chapter, providing effective support for newly graduated nurses in their first jobs to support their retention as part of the effort to address the nationwide nursing shortage. Although, potential participants share a common feature, they are likely to show great variability in a number of other characteristics, such as age, experience, ethnicity, skills, knowledge, and culture.

Thus, the first part of the needs assessment should be to collect demographic information. This can be done in a variety of ways, depending on the size and geographic distribution of the population involved in the program. This information can be gathered via registration for the program or by using online questionnaires.

This type of data gathering should be done *each* time a program is conducted or a new cohort is added, because it is not safe to assume that first year nurses in one year are similar in demographics, skills, and culture, to the next year's protégés. Doing this also allows developers to compare their data over time and to be able to tell if the characteristics of the participants remain stable over time, or if they are changing. If they are changing, that could have ramifications for anything or everything in the program, from the matching protocol to the training, coaching, and group e-mentoring aspects of the program and programmatic features.

Identifying Technological Access and Abilities

In order to establish program goals, the participant needs to be engaged (Asgari & O'Neill, 2004; Bennett, Tsikalas, Hupert, Meade, & Honey, 1998; Ithaca Evaluation Group, 1999). While this seems self-evident in face-to-face mentoring, e-mentoring presents some additional obstacles and requires skills in order to allow a protégé to participate in and benefit from participant in an e-mentoring program. So the first topic to address is the technology skills and access to technology of the participants.

Individuals who participate in e-mentoring, whether they are protégés or mentors must have the skills to use the technology with ease and be able to access it as needed. Both of these elements must be addressed in a comprehensive needs assessment. Since e-mentoring is primarily conducted over the Internet, often through the use of e-mail, all the participants need to have a base-level facility with and access to technology.

Early in the development of formal e-mentoring programs, researchers and developers alike realized the importance of technology access and

skills (Bennett et al., 1998; Harris, Rotenberg, & O'Bryan, 1997; Neils, 1997). For instance, in The Telementoring Young Women in Engineering and Computing Project, the high school females serving as protégés in the program had variable access to e-mail, and this influenced their ability to stay in contact with their mentors. Likewise, Harris, Rotenberg & O'Bryan (1997), while connecting public school students with mentors through the Electronic Emissary program, found it necessary to coach the mentors on the students' access to technology. Often the professionals and retirees serving as mentors had individual computers with unlimited access and did not understand the difficulties that were encountered by their protégés in maintaining contact. In comparison to the mentors, the students often shared a few computers among a whole class of students, and therefore were limited in their hours of access.

The importance of access to technology was further illustrated in supporting a program for urban high school students (Friedman, Zibit, & Coote, 2004). During the first half of the e-mentoring program the student-protégés had only limited access to computers. At the mid- point of the program, a "smart" keyboard, one that has word processing and the ability to connect to the internet, was given to each student. The students were then able to check their email, type a response, upload the response to the internet and communicate with their mentors.   Once the students had ready access to the technology, the frequency, outcomes and quality of interactions with their mentors increased dramatically and impressively.

Sometimes, developers can make assumptions about student uniformity in the ability to use technology. For example, in our own work planning a state-wide e-mentoring program for new nurses, since there were as recent graduates of college level educational programs in which they all used the Internet and e-mail, we were able to assume they were proficient and knowledgeable in these areas. Access, however, could not be guaranteed. Many of the individuals live in rural areas where the only Internet access is by 56K modem. Thus, it was important to assist them with the access issue.

One way to do this that we investigated for the nursing program case study was to work with employers. In some instances, the use of the Internet at work may be prevented by firewalls used to preserve the confidential nature of the computer networks. However, because of the benefits of e-mentoring for employers (Chao, 1988), institutions may be willing to allow their employees to use the institution's computers for this purpose. Thus, developing collaborative relationships to ensure that the protégés have Internet access at their places of work or study can be very helpful. For instance, when embarking on the e-mentoring program for new nurses, we made contact with the Chief Nursing Officers of the nursing organizations involved. We were thus able to secure official backing for

participation in the program for both mentors and protégés from the hospital administrations and thus facilitate and expand technological access for our participants.

Identifying and Managing Expectations

Protégé, mentor, and program expectations are crucial aspects in e-mentoring success. In his overview of the early mentoring movement, Freedman (1992) emphasizes the need to establish the expectations and parameters of the mentor-protégé relationships. The more closely they are aligned with one another, the better the possibilities for success. Areas which should be addressed are expectations related to frequency of communication, subject matter knowledge participants should have, and program goals.

When the expectations of the program are made explicit and when participant expectations are aligned with program goals, face-to-face mentoring relationships meet more regularly and are rated as more successful (Boyle and Boice, 1998; Murray, 1991). In e-mentoring program contexts, because of lack of context cues, communications that involve goal-setting, progress-reporting, and the nature of the interactions are of paramount importance (Kimball & Eunice, 1999). The lack of contextual cues that are present in face-to-face mentoring, establishing the expectations, such as the frequency of contact, may be even more important in e-mentoring than in general mentoring programs. (Harris et al., 1997; Sproull & Kiesler, 1992).

While a benefit of e-mentoring is that mentors and protégés often bring affiliations with different organizations (Single, Muller, Cunningham, Single, & Carlsen, 2004), this may also make setting and managing expectations in e-mentoring programs more important than doing so in face-to-face mentoring (O'Neill & Harris, 2000). For instance, when managing an e-mentoring program between professionals and school students, the professionals serving as mentors typically have ready access to the Internet throughout the course of the day, the students would have much more restrictive use (Bennett et al., 1998; Harris et al., 1997). Therefore, one of the first areas to address is the participants understanding of the mutual expectations concerning the frequency of communications and expectations regarding lag time in responding.

The second topic to consider regarding expectations is the subject matter   expertise protégés   and   mentors   are   expected   to have. This knowledge is very important in setting program goals. It is also vital in proper matching of protégé and mentor. There   can   be   great   disappointment   if   a   protégé   has   high expectations of a mentor's expertise   in area they want to learn

more about and the mentor does not have that expertise. Likewise, there can be great frustration on the parts of both mentors and protégé if the protégé lacks adequate subject matter knowledge to understand or benefit from the expertise of the mentor. Having this information is particularly important in designing the coaching features of the program to increase subject matter knowledge and understanding.

A final area to consider with regard to protégés' and mentors' expectations is the goals of the program. Not everyone will come into the program with the same expectations. For instance, O'Neill and Harris (2000) found that protégés, who were school students, and their mentors came into the programs with different expectations of the meaning of "good mentor". While both student-protégés and mentors were in agreement that asking questions as part of the "inquiry jumpstart" would be an important part of the e-mentoring, the mentors expected to have more follow-up and directive exchanges than the student-protégés seemed to desire. Especially when dealing with people from different organizations, with variations in age and other factors, the possibilities for differences in perceived program goals, and thus outcomes, are great. Therefore, they must be dealt with early in the program.

Managing Program Expectations

Once communication, subject area knowledge, and program goal expectations are identified, it is essential that these expectations be considered in the program design and that they be managed throughout the e-mentoring process. Managing expectations "includes communicating the program goals, eligibility criteria, and frequency of expected contact to the target mentor and protégé populations" (Single and Muller, 2001, p. 112). The best way to address managing expectations is upfront, as part of the training and orientation process. Coaching and group e-mentoring are other strategies that can be used to manage expectations and ensure program success.

Managing expectations through training scenarios. *Training* has a significant role in structured mentoring programs and is becoming increasingly common in e-mentoring programs. As Boyer (2003) states, training needs to "clearly define all member responsibilities and function to understand the assumed virtual role" (p. 38).

Training programs are useful in shaping the behavior and information that individuals possess to improve the match between what they bring to the program and what is necessary for success in an organization (Chao, 1988). Training in e-mentoring can be expected to shape the individuals' abilities to maximize the benefits of mentoring relationships. A major out-

come is facilitating skill-building and defining the responsibilities of participants (Gaskill, 1993). When mentoring programs are adapted to electronic format, the content and delivery of the information become important elements.

Training is a necessary component in e-mentoring because it exposes both mentors and protégés in advance to issues that may arise during the mentoring relationship. The training program should help accomplish the transition to an e-mentoring program by providing the user with opportunities for problem solving of increasing complexity. A well-developed training program can facilitate the development of skills for both the mentor and protégé (Coovert & Craiger, 1997; Ravet & Layte, 1997).

The training should be designed to stimulate the initial contacts between mentor and protégé to help establish the relationship. Training tutorials can be useful in this process by presenting participants with scenarios of potential situations that will help them understand and deal with potential problems and develop their e-mentoring skills as both protégé and mentor. The scenarios should be based both on the information gained during the needs assessment phase and the desired program outcomes.

With each scenario, participant should be presented with options to identify a course of action. Coaching should be integrated into the training sessions to assist the participants in understanding the e-mentoring process. While there should be no correct answers in scenarios designed to solve problems, coaching responses should be incorporated into the scenarios to assist participants in addressing the issues presented. There is no correct answer, just different coaching responses are provided. Through these scenarios, protégés and mentors should discover appropriate ways to manage their expectations, and afterwards, their interactions

Scenarios should be progressive so that the participants engage in thought experiments of increasing complexity. For example, the first scenario could discuss the way to initiate the relationship. This could include what types of discussion points to include in the first contact and what to expect. The coaching responses would address the selection of topics, possible limits and boundaries to the relationship, and suggestions for continuing. Sensitive areas, such as role transition, could be the focus of some scenarios. By introducing such topics, participants can learn that others experience similar thoughts and feelings and that is it acceptable to deal with issues of conflict and concern without fear. Protégés can learn that they can discuss these topics openly with their mentors

A scenario on maintaining contact would also be a valuable tool for use in the training session. At times, the number of emails may drop below the suggested frequency of contact. The individuals could problem solve with the help of the coach to find different strategies to stay involved with their

mentor/protégé. Going though an exercise dealing with the topic will help prepare both the protégé and the mentor to address the issue when needed.

Training models for managing expectations in e-mentoring. Training can be delivered using a variety of methods. There are three primary types of e-training that appear in the literature: electronic discussion groups, web-based e-training, and individualized training via facilitators assigned to e-mentoring pairs (Single & Single, 2004). We discuss each of these in more detail below.

Electronic discussion involves participants in group dialogue about issues of importance. Electronic discussions were used in The Telementoring Young Women Project. We describe this process as an example of the way in which electronic discussion groups are developed and implemented. Training was accomplished through a process that Bennett, Hupert, et al (1998) call "online preparation sessions." The discussion list was individualized to meet the needs of the program participants. Each group had its own separate training session, mentors, protégés, and list facilitators or coaches.

Each discussion leader was responsible for a small group of mentors. Between 10 and 15 mentors were placed on each list for the training, which was accomplished through the discussion group. The training was highly structured and was completed over a three week period of time. The mentors were presented with scenarios and information to develop the on-line mentoring relationship. Through this process, the mentors were provided with coaching to respond to the scenarios and situations that would enable them to support their protégés. Each of the protégés also engaged in training using the discussion list method.

The use of on-line training utilizes the advantages of the World Wide Web aspects that allow participants to engage in the process anytime and anywhere internet access is available. MentorNet, an interactive web-based mentoring program for women in science, technology, engineering and mathematics used this on-line training format (Kasprisin et al., 2003; Kasprisin, Single, Single, & Muller, 2005). Programs goals and participant characteristics were identified, then case studies that addressed these issues were written. The case studies were subdivided into multiple scenarios. To facilitate their use, each scenario was posted on a website. The participant was asked to select on of two choices or responses at the end of each scenario. This required the individual to actively engage in the training process. The participants themselves determined the next step in the case study. At the conclusion of each scenario, two options were proposed. The participant could choose one of the "forced choice" options or provide a different response by typing into a text box. If the text box option was used, they would then be able

to read responses posted by other participants in the training program. This training would then become similar to a threaded discussion group.

The use of the interactive Web-based training model has the advantages of being able to increase the number of participants that can be accommodated and decreases the need for group facilitators. This format is also very convenient for participants since they can access the training and participate at their own convenience.

Kasprisin and colleagues (2003) created a study to test the hypothesis that interactive, web-based online training was beneficial. The findings supported the assumption that a mandatory training program for protégés improves the e-mentoring experience; participants had a higher level of engagement than those who were not required to complete the training. The data from this study emphasized the need to mandate online training for the protégés to improve the capacity of the protégé to interact with and maintain the e-mentoring relationship. When the mentor data from the same study was analyzed, it showed that the mentors also benefited greatly by being paired with protégés who had participated in the mandatory online training sessions. Upon completion of the program, mentors had increased engagement and were more satisfied with their e-mentoring process.

It is possible to include components of training without designing a separate program. This was accomplished in the Electronic Emissary project using online facilitators (Harris & Figg, 2000). The purpose of the Electronic Emissary is to get students from grades K-12 by giving them access to external subject-matter experts as they work on school projects. Each e-mentoring pair was assigned a facilitator who coached them through the initial stages of the relationships. Due to the nature of the program, the coaches had to customize their facilitation for each group and specifically focus on the needs of individual students. This is referred to by Harris and Figg as "facilitator as tour guide" (2000, p. 230). In this role, the facilitator worked with the students and subject matter experts to identify doable projects, arrange schedules and deadlines, and ease the initial coordination among protégés and mentors. The facilitators had the responsibility for getting the e-mentoring pairs started in the online relationship.

Another significant component of formal, structured e-mentoring programs is coaching, which is discussed in the next section.

Managing expectations through coaching. Here, we are using the term "coaching" to describe the support that is provided by the structured e-mentoring programs or project staff throughout the duration of the program, rather than the help that the mentor provides the protégé during the e-mentoring relationships. The function of the coach is to work with both the mentors and protégés to maximize the relationship between them. In the initial phase of the mentor-protégé relationship, the coach serves the role of a

facilitator. Studies have shown that regular interactions with program staff (i.e., coaches) are beneficial for face-to-face mentoring programs (Boyle & Boice, 1998), Single and Muller (2001) adapted coaching to a structured e-mentoring program using regularly scheduled e-mail messages. Over time, they discovered that brief email messages were most effective. If the message was brief (no more than one screen length), the participants were more likely to complete the entire message. If scrolling down the screen was necessary to read the entire message, participants were less likely to read the entire message. This reflected the busyness of the participants (professionals and college students in science, technology, engineering, and mathematics). Most individuals do not read information greater than one page in length. Single and Muller (2001) have noted "coaching, in a networked environment, is delivered via e-mail messages containing discussion suggestions or mentoring tips that are appropriate for the program goals and population" (p. 115). This is the approach used in the structured e-mentoring program noted above. Although the coaching messages were on the same topic for each group of mentors and protégés and were sent simultaneously, each group received messages unique to their educational level (for example, first and second year undergraduate students and their e-mentors received different messages than doctoral students and their e-mentors). This necessitated different coaching curriculums for each of the different groups that participated in the program.

Studies have confirmed the need for coaching and facilitation to support the e-mentoring relationship (Harris et al., 1996). In the Electronic Emissary project, Harris and Figg found that coaches assumed "multiple roles simultaneously"(2000, p. 229). The coaching function has four distinct purposes. Initially, the coach must provide support and encouragement and remind participants to stay in contact. If the mentor and protégé have encountered difficulties maintaining the email connection, a reminder from the coach can serve to help reestablish the connection between the e-mentoring partners without embarrassing either party. These reminders can also help prevent the pairs from becoming disconnected.

A second function of the coach is to act as a guide through the developmental stage of the relationship. The coach assists both mentor and protégé to maintain contact during this very important stage of building the relationship. Coaching messages customized for the program goals and each participant group are sent to provide a basis for discussion between the protégé and mentor. This is the third purpose of coaching. The final function of the coach is to allow the program staff to maintain contact with the participants, provide consultation, and take care of troubleshooting and rematching of the protégé and mentor if necessary.

In addition to the function of acting as a tour guide which was discussed in the previous section on training, Harris and Figg stated that coaches provided functions of tutor and "jovial nag" (2000, p. 230). The

term "tutor" has been used to identify the coach's role in managing program expectations. Harris and Figg felt the function of the coach as tutor was of particular value when participants have differing expectations and access to technology. For example, not all K-12 students have the ready access to the Internet that their mentors enjoy. In this situation, coaches need to assess the differences in availability and help identify solutions.

The role of jovial nag identified by Harris and Figg (2000) is similar to the coaching role of providing support and encouragement and sending reminders to stay in contact, as mentioned earlier. This is the first of the four purposes served by the coach. The jovial nag provides reminders to stay in contact, especially when the e-mentoring exchanges lag.

There has been little research comparing coaching and no coaching in an e-mentoring program. We propose that this is an area for further study. It has been found that the frequency of coaching messages had an impact on program success i.e. more frequent (weekly) coaching messages were more effective than less frequent (biweekly) ones. Using an experimental design methodology, Single, Muller, and Carlsen (2000) randomly assigned a group of e-mentoring partners to a condition where they received weekly coaching messages. A comparison group was assigned to receive biweekly coaching messages. The protégés who received more frequent (weekly) coaching messages had higher ratings of satisfaction with the program, compared with the protégés who received the less frequent (biweekly) coaching messages.

Neils (1997), the founder of the International Telementor Program, stated "The facilitator plays a crucial role." Coaching is the structural support provided by the program to the participants. It plays a critical role, but is often overlooked in the development of e-mentoring programs. It is the most resource intensive feature of structured e-mentoring programs. Studies with face-to-face mentoring programs have identified coaching as an important method of keeping participants involved and engaged in the program. In addition, studies have shown that the frequency of coaching contacts is directly related to the increasing satisfaction of the protégés. Although "coaching" or "facilitation" comes from different sources, it seems to be a program feature of e-mentoring programs that is effective in supporting the development and on-going involvement of the e-mentoring pairs. Harris & Figg (2000) describe four essential characteristics associated with a successful electronic coach or facilitator. These are the technical skills necessary to meet the goals of the program and to assist the mentors and protégés, organizational skills to manage both the program and number of messages that potentially come from the participants, the people skills that are necessary for on-line interactions, and lastly a knowledge of instructional design to help the participants

Group E-mentoring.

While the training and coaching features of e-mentoring programs primarily support involvement within the mentoring dyads, the next feature – group e-mentoring – facilitates group mentoring relationships among all the participants. Through the use of discussion groups, each group can share problems and potential solutions. Mentors can post messages about the difficulties they may be having engaging their protégés. Other mentors and the program coach can then offer different strategies for resolution. The same benefits can be achieved by the protégés. By observing the commonalities that they share with the other students and new professionals, the protégés can understand that they are not alone and are but truly part of a group that is having similar experiences. Often the somewhat anonymous nature of the Internet will facilitate this type of communication.

Needs Assessment: Training.

To identify the appropriate subject matter, the next level of needs assessment must be performed. Questions such as what characteristics indicate a successful transformation and how to facilitate this transformation to the work environment need to be answered. These can be evaluated by an analysis of the experiences of those individuals who have been successful in their socialization to the job and profession.

In developing the e-mentoring programs for new nurses, focus groups were conducted enabling the discovery of commonalities that exist in the majority of the participants. Two groups of participants were used, newly graduated nurses and nurses with one year of experience. Baseline information was obtained from the newly graduated nurses to determine what the needs and expectations of this group. In comparison, focus groups were also scheduled with nurses who had one year of experience. The emphasis was on their experiences during the first year, both positive and negative. We inquired about the most common events, most distressing occurrences, and which actions were most likely to interfere with their continuation in employment or their development in the profession.

CASE STUDY OF A NEEDS ASSESSMENT

Purpose

The purpose of the proposed e-mentoring program was to uncover commonalities of experiences of new graduate registered nurses in their

first hospital employment. This program is important because currently there is a severe nursing shortage. Predictions are dire, as by 2020 the shortfall of nurses compared with the health care needs of the American population is expected to reach a crisis point (Bednash, 2000; Buerhaus et al., 2003; JCAHO, 2003; Murray, 2002). Also, the nursing shortage tends to be more severe in the rural areas of the nation. Therefore, e-mentoring allows for the mentoring of new nurses in areas where face-to-face mentoring opportunities may be scarce or unavailable.

Currently, there is little material in the research literature concerning the successful role transition and socialization of new nurses, although anecdotal support does exist. Finding out the needs and expectations of new nurses is important in order to be able to design an effective training program upon which to develop e-mentoring relationships. As mentioned earlier, we wanted the participants to get off to a good start in their new careers and to meet their actual needs, therefore a mechanism for identifying and grouping these needs was essential.

In addition, different populations and even cohorts may have unique experiences, although commonalities do exist Therefore, the case studies were conducted as close in time to the proposed e-mentoring program as possible, to ensure that the information on the needs of the new nurses was current and timely.

Under the blessing of the local medical center and after gaining human subjects' approval from the appropriate institution, we conducted a series of focus groups with newly graduated registered nurses. The new nurses were required to participate in an extended orientation period lasting six months. This orientation included classroom days at two, four, and six months. At each of these time points, we conducted focus groups with different subgroups of the new hires.

The focus groups were held in a classroom away from the clinical site. Each focus group lasted for 45 minutes to an hour at the end of orientation days. The focus groups ranged from 6 to 12 participants and the proceedings were audio recorded. The focus groups were led by one of the authors (C.A.K.).

The questions posed on the focus groups centered on their transition experience to the workplace. They were asked to remember the first day of work and significant issues that developed during their early employment. A sample question was "Tell me about your first day of work', after which the researcher facilitated the responses and interactions among the participants.

Out of these focus groups, three themes emerged that would greatly influence the development of an e-mentoring support program. These themes will be woven into the training and the other programmatic features of an e-mentoring program for new nurses. Below we present and dis-

cuss these themes in depth. In addition, we address how our awareness of the themes will influence program development.

Staff Not Being Prepared to Welcome New Nurses

One of the first themes to emerge was the sense that the staff on the hospital unit was not alerted to the arrival of a new employee. Therefore, when the new hires arrived on the units, they were not welcomed (as they were not expected). Rather they were inquired as to why they were there. The result was that the new hires began their new employment feeling unwelcome and unsure of themselves. While some new graduates did have positive experiences others verbalized frustration and self doubt. One new graduate was upset that two nurses were fighting over who would have to orient her to the unit "I have never felt so unwelcome. Neither nurse wanted to work with me. I kept trying to figure out what I had done wrong".

Immediately the new hires, as told in the focus groups, began questioning their decision to work on that unit in that institution. One participant reported that the nurse she was assigned to work with kept telling everything that was wrong with the institution. "By the end of the first day, I was certain that I'd made a mistake about working at this hospital, it seemed that they didn't do anything well." Another individual had been working in the institution in another capacity outside of the nursing department. This person was being oriented to the unit on the night shift. Upon arriving on the unit wearing the new name RN name tag "It was such an important day for me after all my hard work while holding a full time job, I had finally made it. Then when I greeted the staff and told them why I was on the unit, I was ignored. Even though I recognized most of the staff from my previous position, it was like they didn't want me there".

Basically, it seemed that this created a very negative first impression to the new hires. Regardless of the other incentives and benefits afforded by the institution, such as orientations, statements of the institutions value of and support for the new hires, these first impressions had lasting negative influences on the new employees. This was especially true since the new nurses had to work with the nursing staff – which were not actively being unwelcoming, but were not informed about the future arrival of their new colleague. Neither were the current staff coached on how new employees should be greeted.

This first scenario thus focused on of the needs of new hires, as indicated by the information gathered to inform the e-mentoring program in its training and each coaching activities. The protégés could be coached that sometimes the first day can get off to a rocky start. The unit may have been

busy, a crisis may have just occurred on the unit, or other unforeseen events. Also, the unit may not have been properly informed as to the new hires forthcoming arrival. Then the protégé could send an email to his or her mentor and feel free to tell them about the situation. This would prevent from blaming themselves, questioning their career choice (after 4 years of education), and prevent any decreases in enthusiasm for or affiliation with the nursing field. By knowing in advance, through a training tutorial that they may expect this type of treatment, and that it is unacceptable but not uncommon, will free up the new hire to discuss it with their mentor. Then the mentor can assist in normalizing the situation, coaching them through how to make the second day better, and aiding them in developing professional relationships on the unit. This would be a much better course of action than those taken by many who participated in the focus groups, who did not have an opportunity to share their negative first experiences in a supportive environment. Therefore, it created internal conflict and self doubts in the new nurses. That is precisely what we want to avoid.

Lack of Orientation to Unit-Specific Policies and Procedures

The second theme to emerge was ensuring that the new nurses were oriented to the policies and procedures relating to the work expectations on their particular unit.   During the focus groups, a few mentioned uncertainties about knowing their scheduled work times and how to schedule days off and sick days. The most graphic example of this that came out of the focus groups was the experience of one new nurse who worked a regular work week, Monday through Friday, for four weeks. Upon receiving her second paycheck, she realized that something was not correct. She went the nurse manager, who only then informed her that she was actually supposed to have worked the weekends for two of those previous weeks, and not the regular Monday through Friday times. The new nurse was mortified that she was unaware of her scheduled work times, and doubly so that no one had contacted her when she did not report for work as scheduled, nor had they told her to go home when she worked on non-scheduled times.

While this is an extreme example, it shows how the central administrative functions may fall through the cracks for new nursing hires. Therefore the training tutorial for the e-mentoring program coaches the new hires through a check list of things to review during their first days (e.g., scheduling expectations, how to check schedules, daily unit routines, etc.). While there may be centralized procedures to handle these types of routine information transfer, and it may happen at orientation (which often occurs after the first few weeks of employment), this finding illustrates how

often central policies and procedures are not implemented at the decentralized unit level.

The e-mentoring e-training assists the new nurses to develop their own check list of what they need to get off to a good start on the unit. This would include scheduling issues, work assignments, chain of command, and unit culture. The on-line e-training can get the new hire started thinking about these issues. Then this can be one of the first email interactions the new hire exchanges with his or her e-mentoring. This very tangible type of exchange can establish a strong foundation between the protégés and the e-mentors, as the e-mentors can provide very concrete and tangible advise as to how the new employee can get the information they need right up front. In addition, if the first day doesn't go as planned, and as referred in the previous section, then the e-mentor can serve as a supportive and impartial person to whom the protégé can unload their disgruntles and get feedback and advise. Most likely, this feedback and advise will help the protégé normalize a negative experience, and not make the new hire shake his or her confident or commitment to the field.

That is the advantage of e-mentoring, it provides an outlet for the protégé to get feedback in very uncomfortable or negative positions. Also, since the e-mentor will not be a part of the same unit, the e-mentor would feel free to provide honest and unhindered feedback about the situation experienced. Therefore, the protégé can solicit, and the e-mentor can provide, honest and supportive feedback.

Also through e-training, the protégés can have a foreshadowing of what to expect, and not be blindsided by the experience. By knowing this, they may be more likely to ask questions on the spot, or solicit support from their e-mentoring in a timely manner, so as to prevent deep resentment on the part of the new hires commitment and affiliation with the field.

No On-going Communication about their Early Progress

During the focus group at eight weeks, at a time when the new nurses were to be transitioning to their regular shift/patient assignments, some of the new nurses were concerned that their preceptors (the more senior nurse who has the job of orienting the new nurses and ensuring their skills are up to par) were ready to have them go it alone. While the new nurses had been working for a few weeks, and improving their skills, the lack of regular and consistent feedback about their progression left them confused and uncertain about their skill acquisition.

This theme came up when the participants responded to the question "How could have your orientation been made better?" Every participant

commented on this same lack of communication and feedback on their early progress, although to varying degrees.

As part of the orientation, the new nurses were supposed to get regular and directed feedback from their preceptors. This did not happen, or at least not to the extent desired. Interactions that consisted of "How am I doing?" and the preceptor responded "Fine" seemed to be sufficient for many of the preceptors. However, these terse and informal conversations left the new nurses uncertain as to their progress and ability to begin working independently.

Rather, what the e-training modules would assist the new nurses in doing would be to help the new nurses to establish and request a regularly scheduled and formularized feedback session. The e-training, since it is set up on a website, would also link to a template for a skills checklist the new hires could use and bring to these sessions. The new nurses could go through these checklists with their preceptors, thereby getting the detailed and timely feedback and encouragement they desire.

These events would also provide regularly scheduled "excuses" for the protégés to email their e-mentors and report on the feedback sessions, and how they went. Part of this conversation would be setting of goals for the next period of time and create more opportunities for the e-mentoring partners to exchange emails, and thus further both their positive and negative perceptions, as indicated. Also, sharing the checklist with the e-mentor would allow a second person, other than the preceptors who are senior and more experienced nurses, to review the list and ascertain whether anything needs to be added or emphasized on the check list.

CONCLUSIONS

E-mentoring is still a relatively new field. While growing, the field still has some room to develop new structures and directions in terms of programmatic development and design. Conducting a needs assessment is an essential feature in developing an e-mentoring program. The needs assessment ensures that the issues of the population and the program goals are integrated into the program's features, such as the e-training and the initial stages of the e-mentoring that occurs between the newcomers and their more experienced mentors.

Needs assessment can take multiple forms. In this chapter, we utilized the methodology of focus groups to identify crucial issues of importance to new nurses. Other methodologies, such as surveys, interviews with participants and supervisors, and observations, could also be utilized to collect needs assessment data. These data can be grouped into emergent themes,

as we did here, and then used to inform the e-training and e-mentoring program being developed to support the protégés.

The purpose of an e-mentoring program is to provide the support and guidance needed by the newcomers. What better way to identify the support and guidance they need than by asking them informally or formally thought process of a needs assessment? Once these themes and issues have been identified, a program can be developed that can truly meet the immediate and timely needs of the newcomers. In addition, this will form the foundation for a lasting relationship between the protégés and the e-mentor that will enable long-term problem solving and support to continue, enriching both.

REFERENCES

Asgari, M., & O'Neill, K. (2004, April). *What do they mean by "success"? Contributors to perceived success in a telementoring program for adolescents.* Paper presented at the American Educational Research Association, San Diego, CA.

Bennett, D., Hupert, N., Tsikalas, K., Meade, T., & Honey, M. (1998). *Critical issues in the design and implementation of telementoring environments.* New York: Center for Children and Technology, EDC. Retrieved September 20, 2003 from http://www2.edc.org/CCT/admin/publications/report/09_1998.pdf.

Bennett, D., Tsikalas, K., Hupert, N., Meade, T., & Honey, M. (1998). *The benefits of online mentoring for high school girls: Telementoring young women in science, engineering, and computing project - Year 3 evaluation.* New York: Center for Children and Technology, EDC. Retrieved June 10, 2004 from http://www2.edc.org/CCT/admin/publications/report/telement_bomhsg98.pdf.

Bierema, L. L., & Merriam, S. B. (2002). E-mentoring: Using computer mediated communication to enhance the mentoring process. *Innovative Higher Education, 26*, 211-227.

Boyer, N. R. (2003). Leaders mentoring leaders: Unveiling role identity in an international online environment. *Mentoring and Tutoring, 11*(1), 25-41.

Boyle, P., & Boice, R. (1998). Systematic mentoring for new faculty teachers and graduate teaching assistants. *Innovative Higher Education, 22*, 157-179. Retrieved on October 2003 from www.uvm.edu/~pbsingle.

Chao, G. T. (1988). The socialization process: Building newcomer commitment. In M. London & E. M. Mone (Eds.), *Career growth and human resource strategies: The role of the human resource professional in employee development* (pp. 31-47). Westport, CT: Quorum Books.

Coovert, M. D., & Craiger, J. P. (1997). Modeling performance and establishing performance criteria in training systems. In J. K. Ford, S. W. J. Kozlowski, K. Kraiger, E. Salas & M. S. Teachout (Eds.), *Improving training effectiveness in work organizations*. Mahway, New Jersey: Lawrence Erlbaum Associates, Publishers.

Ensher, E. A., Heun, C., & Blanchard, A. (2003). Online mentoring and computer-mediated communication: New directions in research. *Journal of Vocational Behavior, 63*, 264-288.

Friedman, A. A., Zibit, M., & Coote, M. (2004). Telementoring as a collaborative agent for change. *Journal of Technology, Learning, and Assessment, 3*(1), Retrieved on June 11, 2004 from http://www.jtla.org.

Gaskill, L. R. (1993). A conceptual framework for the development, implementation, and evaluation of formal mentoring programs. *Journal of Career Development, 20*(2), 147-160.

Harris, J., & Jones, G. (1999). A descriptive study of telementoring among students, subject matter experts, and teachers: Message flow and function patterns. *Journal of Research on Computing in Education, 32*, 36-53.

Harris, J., O'Bryan, E., & Rotenberg, L. (1996). It's a simple idea, but it's not easy to do: Practical lessons in telementoring. *Learning and Leading with Technology, 24*(2), 53-57. Retrieved June 8, 2004 from http://emissary.wm.edu/templates/content/publications/October96LLT.pdf.

Harris, J., Rotenberg, L., & O'Bryan, E. (1997). *Results from the Electronic Emissary Project: Telementoring lessons and examples [Online]*. Denton, TX: Texas Center for Educational Technology. Retrieved on June 9, 2004 from http://www.tcet.unt.edu/pubs/em/em01.pdf.

Harris, J. B., & Figg, C. (2000). Participating from the sidelines, online: Facilitating telementoring projects. *ACM Journal of Computer Documentation, 24*(4), 227-236. Retrieved June 1, 2004 from http://emissary.wm.edu/templates/content/publications/harris-and-figg.pdf.

Ithaca Evaluation Group. (1999). *MentorNet: 1998-99 Evaluation Report*. San José, CA: San José State University.

Kasprisin, C. A. (2003). *An analysis of the effectiveness of computer mediated tutorials used in e-mentoring*. Unpublished doctoral dissertation, University of Vermont, Burlington, VT.

Kasprisin, C. A., Single, P. B., Single, R. M., & Muller, C. B. (2003). Building a better bridge: Testing e-training to improve e-mentoring programmes in higher education. *Mentoring and Tutoring, 11*(1), 67-78. Retrieved on October 22, 2003 from www.uvm.edu/~pbsingle.

Kasprisin, C. A., Single, P. B., Single, R. M., & Muller, C. B. (2005). *Building a better bridge revisited: Training protégés benefits mentors*. Manuscript in preparation.

Kimball, L., & Eunice, A. (1999). *Zen and the art of faciliating virtual learning communities*. Paper presented at the Thinkquest Teachers' Summit, Los Angeles, CA.

Murray, M. (1991). *Beyond the myths and magic of mentoring*. San Francisco: Jossey-Bass.

Murray, M. K. (2002). The nursing shortage: Past, present and future. *JONA, 332,* 79-84.

National Mentoring Center. (2002). *Perspectives on e-mentoring: A virtual panel holds an online dialogue.* Retrieved December 16, 2004 from www.nwrel.org/mentoring/pdf/bull9.pdf.

Neils, D. (1997). *The Hewlett Packard E-Mail Mentoring Project.* Panel discussion on "Telementoring Ways of Learning" presented at the BBN National School Network Conference, Cambridge, MA.

O'Neill, K., & Harris, J. (2000, April). *Is everybody happy? Bridging the perspective and developmental needs of participants in telementoring programs.* Paper presented at the American Educational Research Association, New Orleans, LA. Retrieved on June 8, 2004 from http://emissary.wm.edu/templates/content/publications/DKO-JBH_AERA2000.pdf.

Pololi, L. H., Dennis, K., Winn, G. M., & Mitchell, J. (2003). A needs assessment of medical school faculty: Caring for the caretakers. *Journal of Continuing Education in the Health Professions, 23*(1), 21-29.

Ravet, S., & Layte, M. (1997). *Technology-based training.* Houston, TX: Gulf Publishing Company.

Single, P. B., & Muller, C. B. (2001). When email and mentoring unite: The implementation of a nationwide electronic mentoring program. In L. K. Stromei (Ed.), *Creating Mentoring and Coaching Programs* (pp. 107-122). Alexandria, VA: American Society for Training and Development. Retrieved on October 22, 2003 from www.uvm.edu/~pbsingle.

Single, P. B., Muller, C. B., & Carlsen, W. S. (2000, April). *Electronic mentoring: Testing the features of a structured program.* Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA. Retrieved on October 22, 2003 from www.uvm.edu/~pbsingle.

Single, P. B., Muller, C. B., Cunningham, C. M., Single, R. M., & Carlsen, W. S. (2004). The benefits of e-mentoring: A conceptual framework based on research. *To be submitted to Mentoring and Tutoring.*

Single, P. B., & Single, R. M. (2004). E-mentoring and Telementoring: A review of research to inform program development. *Manuscript submitted for publication.*

Sproull, L., & Kiesler, S. (1992). *Connections: New ways of working in the networked organization.* Cambridge, MA: MIT Press.

Zachary, L. J. (2000). *The mentor's guide: Facilitating effective mentoring relationships.* San Francisco: Jossey-Bass.