Continuing Education Course

Approved by the American Board of Opticianry and the National Contact Lens Examiners

Mentoring New Opticians

National Academy of Opticianry
8401 Corporate Drive #605
Landover, MD 20785
800-229-4828 phone
301-577-3880 fax
www.nao.org

Mentoring New Opticians

William Underwood, Ph.D., ABOM

Mentoring has a rich and interesting history. The term "Mentor" has its origins in The Odyssey by Homer which was written in the 8th century BC. Telemachus, son of Odysseus, goes to fight in the Trojan War. Athena, the goddess of wisdom assumes the form of a man named Mentor to guide and look after Telemachus. A Mentor has been defined as "A trusted friend, counselor or teacher, usually a more experienced person". Some professions have "mentoring programs" in which newcomers are paired with more experienced people to obtain good examples and advice as they advance." In our field Mentors often have high levels of optical experience and technical skills but unfortunately, little training in mentoring.

Since the sixteenth-century apprenticeship has been used to teach individuals interested in becoming Opticians. In England according to Charles More, indentures were drawn up, binding servant to master and vice versa; in which the master personally taught the apprentice; took responsibility for the latter's moral welfare and gave him board and lodgings. Back then occupational choice was determined primarily by a child's parents. Around the age of twelve they would offer their child to a Master craftsman in the selected occupation. If the Master Optician accepted the child as an apprentice, the contract lasted seven years. When the training was complete, the apprentice became a Journeyman Optician and could work for whoever they chose. As their skills and resources advanced, they could become a Master Optician and have the right to open their own business and accept their own apprentice. Opticianry degree and apprenticeship training programs require students to learn clinical skills at a work site. This frequently occurs at an optical where a mentor is designated to supervise, evaluate, and encourage the student's performance of predetermined skills. Student success is largely dependent on the mentoring skills of the supervisor and the relationship established between the mentor and the student. The site mentor is mentoring the student but who is mentoring the mentor? Improving mentoring procedures will increase the student's opportunity to satisfactory achieve program outcomes. This course will provide information on how to mentor new Opticians more effectively and why it is important. Establishing an effective mentoring program starts with the recruitment and training of potential mentors. Prior to recruiting, the institution should define the role and function of the mentor. The mentor should be committed to helping the mentee beyond any financial incentive they might receive.

Before we focus on Opticians, a little background on occupational education, in general, is helpful to understand the process. Occupational education has a strong connection to the constructivist learning theory. Russian researcher Lev Vygotsky believed that children will only construct knowledge to their maximum potential with the help of adults. In this case, the mentor and student are not children, but his theory of cognitive development still applies. Vygotsky also recognized the importance of society and culture in advancing a child's cognitive development. His research found that repeatedly performing easy to accomplish tasks did not advance cognitive development. He also found that attempting to perform impossible tasks was of no value. The key for the mentor is to identify what Vygotsky described as the zone of proximal development. This is the range of tasks the student can perform with guidance and assistance but cannot perform independently. The mentor should keep a record of skills that have been

mastered. For example, if the student has fully mastered neutralizing single vision lenses, the mentor should begin guiding them through the neutralization of multifocal lenses. In a degree or training program the mentor is not usually expected to teach the theory behind the process, but they must be able to observe, guide, evaluate, and provide constructive feedback. The mentoring process involves guided practice between a mentor or coach and a less experienced learner. The five key elements of the mentoring process are modeling, coaching or scaffolding, reflection, articulation, and exploration. Modeling may be demonstrating a competency for the mentee or thinking aloud to share a process. For example, when helping the mentee to adjust a metal frame, they can demonstrate or talk aloud while performing the adjustment, so the mentee understands each step including temple spread, pad angles, and temple bends. This could be done on a co-worker or a customer who gives permission. Coaching or Scaffolding involves providing the mentee with verbal support of the cognitive activities needed to perform a competency. For example, using the same competency, the mentor would now allow the mentee to perform the adjustment while checking each step. If necessary, the mentor will correct the adjustment while providing a verbal description of the correction. Reflection is where the mentor encourages the mentee to review their performance on a competency. The mentee should think about what worked and what did not work. They should also consider what they need to do next to improve their performance. For example, the mentee should be asked to reflect on the adjustment they just performed. Following reflection, the mentor needs to encourage the mentee to communicate their findings. As the mentee articulates their perception of their performance on a competency, the mentor can agree or provide additional suggestions. For example, in this case the mentee should talk about why the adjustment was difficult for them to perform. Was it their lack of experience in selecting and using the proper tools? Was it because they did not follow the proper sequence in performing the adjustment steps? Was it due to the patient's unusual features? The mentor will help the mentee identify the areas they need to work on. Exploration involves giving the mentee room to solve the problem on their own. The mentor slowly withdraws some of their coaching and scaffolding support and allows the mentee to perform the competency on their own. This is the point at which the mentee begins to build problem-solving skills.

Apprenticeship is a formal system of guiding students while they perform tasks within an occupation. If the guidance focuses on how to think about a task, Brown, Collins & Duguid labeled it as a cognitive apprenticeship. Learning theories describe how humans process information and move information to long term memory. A key point by Psychologist Jeanne Ormrod is that teachers too often encourage students to learn material through rote activities. It can become meaningless to the student if they are simply memorizing or repeating the information over and over. This situation can occur at a clinical site if the mentor views their role as to assign rote tasks to the student without modeling, scaffolding, feedback, reflection, or discussion. For example, if you ask a student to practice neutralization, you need to check their results and provide feedback. Meaningful learning activities help make a connection between the new material and what is already stored in long term memory. An example of a meaningful learning technique is elaboration in which additional ideas are added to new information to help form a connection to current knowledge. This is where the mentor should also help the student organize new pieces of information so they can see how they are interrelated. For example, if they have been practicing neutralization of single vision lenses, the next activity may be to have the student verify single vision prescriptions and introduce ANSI Z-80 standards. A final process called visual imagery is when the student is encouraged to form a mental picture of what the new information looks like. This is important to opticianry students in that they must visualize how

new information will impact on their final product. For example, can they visualize what a finished pair of glasses will look like on a high myope with a large head and a narrow pupillary distance? Can they visualize how the selected frame style, lens design, lens material, and lens treatments will impact appearance and performance?

Research by Ghetti & Angelini has shown that meaningful learning is more effective than rote learning for storing information in long term memory. It has also been shown by Alexander, Kulikowich, & Schulze that it is easier to use meaningful learning activities when the student has a relevant knowledge base. The related technical information that creates the knowledge base comes from college lecture courses or training programs like the National Academy of Opticianry's Ophthalmic Career Progression Program (OCPP).

The related technical instruction presents the students with the theory behind tasks and then the mentor helps them apply theory in a contextual environment. The beauty of learning at a clinical site is the opportunity to apply concepts and skills in an authentic environment. These experiences allow the student to construct their own view of the occupational competencies.

As mentioned earlier, the principle method of learning to become an Optician for many years has been apprenticeship. This is where a novice works with an expert for a long period of time to learn how to perform complex tasks. Opticianry students are presented with the background information to understand the task by a faculty member or training program resources. In this relationship, the student is serving a cognitive apprenticeship in that they learn how to think about the task. The site mentor shares some of the cognitive responsibility but their main focus is on performance of the skills. For the five mentoring steps discussed earlier to be successful, certain conditions must be present. The social cognitive theory proposes that people learn by observing others and eventually assume control over their own behavior. Bandura identified four conditions that are necessary for a student to learn from modeling. Successful modeling conditions are that the student must pay attention, remember what the model does, must be physically capable of reproducing the modeled behavior and be motivated to demonstrate it. The social cognitive theory recognizes that the person, behavior, and the environment mutually influence each other. The mentor should spend some individual time with the student to help create future goals. With clear goals, the mentor can help direct behaviors so the student can accomplish their goals. As the student experiences the goal setting and accomplishment process, they should become a more self-regulated individual. This is only likely to occur in a supportive mentoring environment.

Research on mentoring students or mentors at clinical sites is limited. No studies were found specific to opticianry. However, several studies were located in related areas that provided insight and best mentoring practices. Creating the right environment is only one of four areas that must be considered when developing any mentoring program. Figure 1 depicts the four areas which include the environment, process, technology, and human factors.
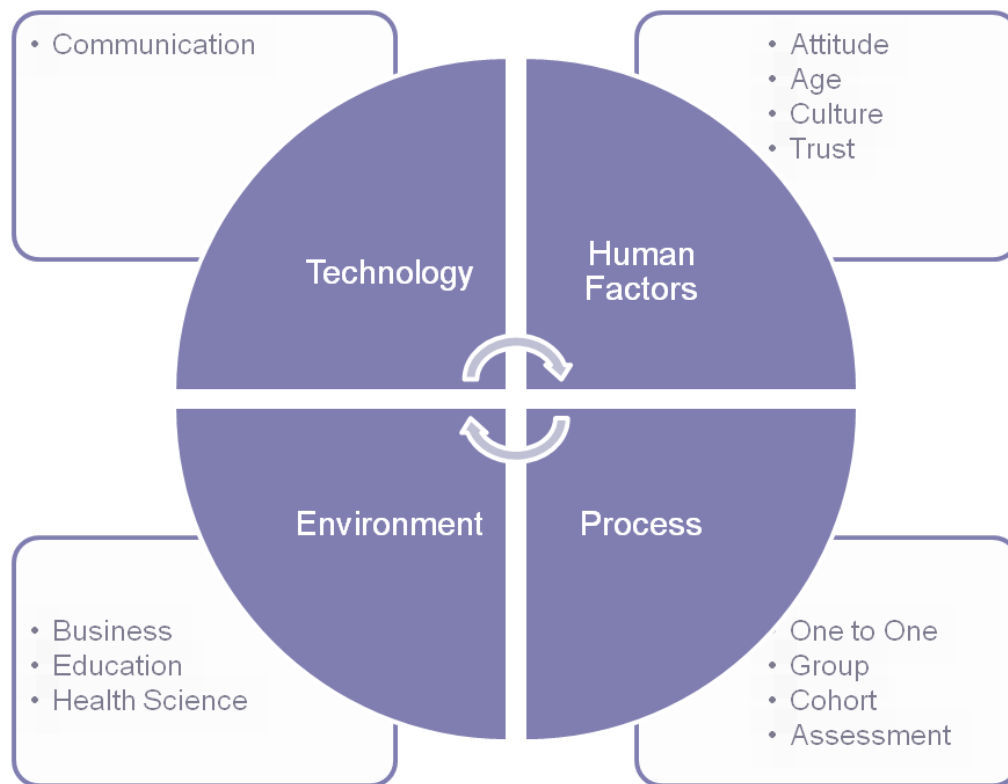
Figure 1

The environment depends on who is being mentored and the type of clinical setting. A faculty member or training director mentoring a site mentor would be considered an educational environment in which the focus is on how to present material and assess student performance. Mentoring in the optical dispensary will focus on the performance of business and health science skills. Mentoring is a process. The four phases of mentoring are initiation, cultivation, separation, and redefinition (Colky & Young, 2006):

Initiation – or beginning the relationship

Cultivation – nurturing the relationship to create mutual respect and trust

Separation – Reducing the coaching and scaffolding while increasing the mentee's opportunity to explore.

Redefinition – End the mentoring or move to higher-level competencies.

The mentoring process is usually one on one, but a site mentor may mentor a cohort of students at the same time. It takes time to cultivate a good mentoring relationship. At some point the student will no longer require mentoring or the type of mentoring needed will change. Mentors must adapt to the Mentee, the environment, and the competency being mentored. Some mentees will require more attention to the mentoring elements for competencies outside their comfort zone. They may be quiet, shy, or lack confidence in their ability to perform. The keys to

successful mentoring are trust, self-motivation, flexibility, communication skills, and technological skills.

The four cornerstones of an effective mentoring program are:

- Forming relationships: You need to care about the mentee as a person.

- Effective communication: This means clear, objective, and supportive communication.

- Professional development: The process should allow both the mentor and mentee to learn new skills

- Fostering a balanced life: Encourage the mentee to engage in professional, civic, and recreational activities beyond the workplace. There is more to life than Opticianry. Assessment of how well the mentoring is going should be based on communication between all parties. Mentoring between the site mentor and student will primarily be face-to-face but can include communications outside work.

Mentoring requires effective communication between the mentee and the mentor. With the expansion of computers and multimedia, virtual mentoring became possible through several vehicles. Asynchronous communication through emails, discussion boards, and videos shared through the internet. Asynchronous or Synchronous communication methods can both be effective in the mentoring process. Mentees can benefit from asynchronous feedback through blogs and e-mail. Synchronous communication can supplement the asynchronous using products like Skype or Zoom. Without frequent communication, the social aspects of a mentoring relationship may be lost. Frequent and regular interaction is needed to make e-mentoring successful. However, some mentees may have an unrealistic expectation of 24/7 access to the mentor. Busy mentors may become frustrated with frequent demands on their time. Expectations should be clear regarding communication methods, turnaround time, and frequency of interaction (Bierema and Merriam, 2002). The human factors of attitude, age, and trust should be monitored to ensure a successful match between the student and site mentor. Research indicates that the keys to successful mentoring are trust, self-motivation, flexibility, communication skills, and technological skills. In a study by Dobie, Smith, & Robins (2010), physician mentors are asked to describe and define their roles as mentors. They found that the mentor/mentee relationships changes during the four years of medical school. Trust and a deeper relationship formed in the second year when the mentor was required to teach the mentee a clinical course in addition to the mentoring role. The same is true for a good mentoring relationship for Opticians. The more time a mentor invests in working with the mentee on meaningful activities, the greater the trust and the deeper the relationship will become. Mentoring a cohort of medical students has some parallels to mentoring a cohort of new clinical site mentors. Like medical students, clinical site mentors may have an interest or expertise in a certain specialty, but the common core desire to become better in their new role. A study by Rogan (2009) revealed some key points relevant to opticianry mentoring. The study looked at the preparation of nurses who precept baccalaureate nursing students. One of the key research questions was "What kind of preparation do nurses who precept students believe is required for them to perform their role?" Three key findings related to the question were found. The first was that nurses who precept wanted to know their responsibilities and roles. If you are serving as a mentor for an Opticianry student enrolled in a

formal program, you should have a clear understanding of your role and responsibilities. The second was that nurses wanted to know how to teach students to set priorities and organize their workload. The skills that Opticianry students are focusing on should align with their current related technical instruction. The third finding was that nurse preceptors wanted to learn how to evaluate a student's performance constructively and help the student set realistic goals for the preceptorship. Competency checklists for evaluating the performance of skills can be helpful. A survey of opticianry mentors conducted by the Hillsborough Community College Opticianry Program revealed similar priorities for mentor preparation.

This survey of opticianry mentoring procedures addressed the mentor and the student. The surveys were created using Snap Survey software and were taken online with the results being anonymous. The link to the survey is mailed to the participants. The survey consists of two phases. The first phase surveyed students on their involvement and satisfaction with the mentoring process. The survey addressed the role of the clinical site mentor and the faculty member in charge of the course. The student survey measured satisfaction with the mentoring they received at their clinical site. The second phase was to study the results of the surveys and construct a survey and training program for the clinical site mentors. The desire for a formal training option for clinical site mentors that includes specifics on how to teach and assess was indicated. The results revealed a range of satisfaction levels for both groups on various aspects of the mentoring experience. Following an analysis of the mentor surveys, a face-to-face training course was offered to mentors. The course was approved for continuing education credit and was well received by attendees. Much of the information in this course was shared with the mentors.

The need to provide training to mentors has been known for many years. In 2012 The Vision Council funded an inter-organization summit themed Opticianry: Creating a Plan for the Future in which more than 50 representatives of the opticianry community met in Fairfax, Va. The summit was designed to bring together interested parties and stakeholders within the opticianry community to create a shared vision for their field and a practical strategic plan and commitment to action. More than 50 people who, in large part, were key representatives of various national and state opticianry organizations attended. A list of projects needed to advance Opticianry was developed. The projects included a wide range of activities including branding, mobility, education standards, and mentoring. Since the Opticianry Summit progress has been made on most of the projects. Some organizations adopted projects as their responsibility. A resource to assist mentors has been developed by Hillsborough Community College with the support of the American Board of Opticianry. The objective was to provide a reference source for eyecare professionals mentoring opticians in training. Six videos of approximately 10-25 minutes in length were created for the following subject areas:

- Mentoring: Best Mentoring Practices

- Mentoring Metal Frame Adjustments

- Mentoring Frame Selection

- Mentoring Contact Lens Care

- Mentoring PAL Verification

- Mentoring Slit Lamp Skills

The videos are designed to provide examples of mentoring in different subject areas.

They are available to everyone and can be accessed by going to the ABO-NCLE website www.abo-ncle.org. When you enter the site click on "Education" and then on "Opticianry Training Videos".

Mentoring can be a rewarding and enjoyable experience for both the mentor and the mentee. The best way to a deeper understanding of a task is to try to teach it to someone else. To summarize, the keys to successful mentoring include:

- A clear definition of the mentor's role
- Understanding the desired outcomes when performing a competency
- Appropriate application of modeling, coaching, scaffolding, reflection, articulation, and exploration.
- Frequent and regular interaction between the mentor and mentee
- Mutual respect, trust, and comfort.

References

Bierema, L. & Merriam, S. (2002). E-mentoring: Using computer-mediated communication to enhance the mentoring process. *Innovative Higher Education* v. 26 (3), 211-227

Colky, D. & Young, W. H. (2006). Mentoring in the virtual organization: keys to building successful schools and businesses. *Mentoring & Tutoring: Partnership in Learning*, *14*(4), 433-447. doi:10.1080/13611260500493683

Dobie, S., Smith, S. & Robins, L. (2010). How assigned faculty mentors view their mentoring relationships: an interview study of mentors in medical education. *Mentoring & Tutoring: Partnership in Learning*, *18*(4), 337-359. doi:10.1080/13611267.2010.511842

Githens, R., Crawford, F., & Sauer, T. (2010). *Online occupational education in community colleges: Prevalence and contextual factors*. Louisville, Kentucky: National Research Center for Career and Technical Education.

Ormrod, J. (2011). *Educational psychology: Developing learners*. New Jersey: Pearson Education, Inc.

Rogan, E. (2009). *Preparation of nurses who precept baccalaureate nursing students: a descriptive study*. The Journal of Continuing Education in Nursing, v. 40 (12) 565-570

National Academy of Opticianry
8401 Corporate Drive, #605
Landover, MD 20785
Ph – (800) 229-4828
Fax – (301) 577-3880