

The Journal of the Association of Schools and Colleges of Optometry

OPTOMETRIC EDUCATION

Volume 21, Number 3

Spring 1996

TOTAL QUALITY EDUCATION GRANT PROGRAM

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**VOL. 21
NO. 3**

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1996**

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EDITORIAL

Improving Education Programs — TQE Can Help

Sally M. Dillehay, O.D., M.S.

Our schools and colleges of optometry have at least four different components to their missions: the education of students, the research of questions important to society and the profession, the care of patients and service to the profession. In order to minimize the effects of political and regulatory forces on these missions, our schools and colleges must be cutting-edge institutions that provide effective leadership in national and global health care issues, health care technology, multidisciplinary research efforts and the education and training of an increasingly diverse population of students and professionals. They must provide this leadership in an era of fiscal constraint that challenges all of higher education to do more with less.

This situation is not unlike that faced by many U.S. businesses beginning in the 1980s. Faced with increasing competition, increasing shareholder demands for monetary returns and decreasing fiscal and human resources, many businesses turned to Total Quality Management principles to improve product performance, customer satisfaction and company profitability.

Total Quality Management, TQM, is a highly-developed, all encompassing management strategy for improving quality. TQM uses a variety of statistical tools and techniques to analyze and track processes and the outcome of these processes. TQM challenges organizations to identify their "customers" and to design processes around "customer" needs and expectations.

Our schools and colleges of optometry are involved in thousands of different processes for patient care, teaching, research, information exchange

and personnel management. They serve a variety of "customers" such as students, alumni, practitioners, patients, staff, faculty, other departments, governmental agencies, insurers and the entire educational community. In the simplest terms, our schools and colleges are an industry supplying a service (education). They start with raw materials (students), apply a process (teaching) and turn out a finished product (graduates). There are raw material specifications (minimum entrance requirements) and incoming inspections (entrance examinations). There are process specifications (curriculum, course outlines), process facilities (faculty, textbooks, laboratories, exam rooms), process controls (reports, quizzes, projects) and final product testing (examinations and proficiency testing). Outcomes such as clinical skills can be assessed and "customers" can be surveyed concerning the quality of the education or patient care received.

For the most part, academic institutions and health professionals are not accustomed to viewing students, patients, faculty and staff as "customers." Most academic institutions exist to educate students in the way the faculty deems appropriate and not necessarily to please the students. But few academic institutions have examined the needs of graduates, doctors or organizations who employ the graduates, or the needs of patients who will be cared for by the graduates.

In conjunction with ASCO, CIBA Vision established the **Total Quality Education (TQE)** grant program in 1994. The purpose of the TQE grant program is to provide financial resources to allow the schools and col-

leges of optometry to utilize and incorporate these TQM statistical tools, techniques and principles in order to promote continuous improvement in all aspects of their educational programs.

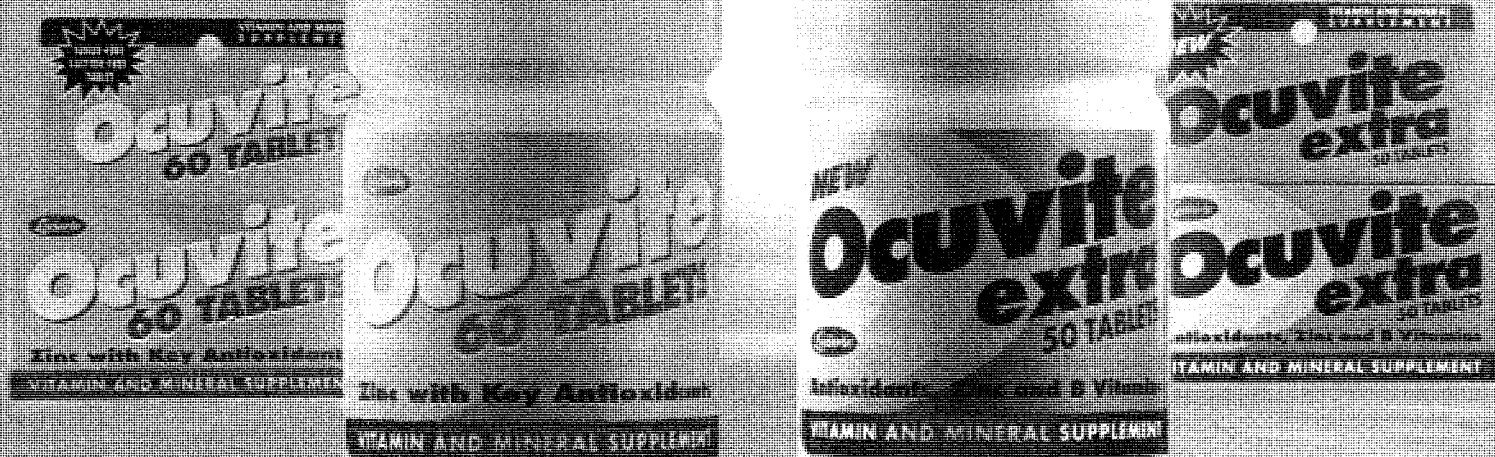
CIBA Vision has successfully used TQM principles to provide exceptional quality in our products, services and support. We are pleased to extend our commitment to quality to further include our vital partnership with optometric education.

The papers published in this issue of *Optometric Education* describe programs that have received grants during in the CIBA Vision/ ASCO TQE grant program. It is exciting to read about the positive changes that are occurring at the schools and colleges of optometry as a result of the program. It is our hope that the descriptions of approved programs by Drs. Siemsen and Wilson and the "Hints for Obtaining a TQE Program Grant" will encourage optometric faculty to submit future requests that continue to reflect the management philosophy of the TQE program.

The opportunities as well as the challenges for education have never been greater. It will require both vision and leadership to find new, more efficient ways to educate tomorrow's professionals, conduct innovative research and care for the increasing population of the U.S. and the world. The CIBA Vision/ ASCO TQE grant program is here to help our schools and colleges of optometry meet the challenges of the future and capitalize on opportunities to emerge as even stronger and finer institutions.

Dr. Dillehay is manager of academic development at CIBA Vision Corporation.

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References: 1. Survey of Eye-Care Professionals, 1994; 2. Ophthalmic and Ocular Health, 1994.

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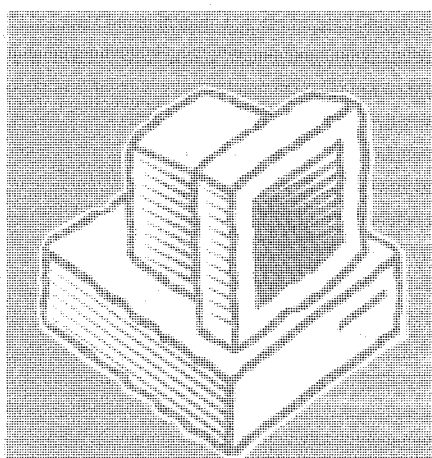
Fundus Fundamentals — An Interactive Review Tool for the Fundus. Potvin, R and Williams, TD, Computerized Continuing Education and Software Development for Eye Care Professionals, Waterloo, Ontario, Canada, 1995, \$100 (practicing optometrists) or \$50 (students) plus shipping and handling.

Fundus Fundamentals is a CD-ROM-based computerized slide presentation of various fundus pathologies. It is accompanied by a concise instruction booklet which is explicit in its directions for using the program. The program may be run from the CD-ROM directly or may be copied to the computer's hard drive, although transfer to a hard drive would require well over one hundred megabytes of disk space.

After starting the program, a menu is presented to the user which is very self-explanatory. The user is given options involving presentation based on a number of categories of intraocular and retinal disease. Options are given for manual as well as automatic photo presentation in either sequential or in random order. Different presentation lengths are also available from as few as 25 photos to as many as 225. Each photo presentation is accompanied by a brief title as well as a short descriptor of the case. A quiz option allows users to view the photo without any information in order to make their own diagnoses. The actual descriptor is then presented for verification.

We found the overall quality of the photo presentations in

"We found the overall quality of the photo presentations in this package to be of superior quality."



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this package to be of superior quality. The authors' recommendation to use a video resolution of 800x600 and 16k of colors was more than adequate for identification. There does seem to be some problem in fitting the entire area of the presentation within the viewable screen. We had to scroll both vertically and horizontally to see the entire screen. This occurred even at higher resolutions than recommended.

We found the text-based descriptions to be less than adequate and would like to see a far more detailed description including more data from the case history as well as more extensive information concerning the condition. Also the authors might consider using some form of hypertext in the description to allow viewers to expand their learning experience. The authors have provided some links between the photos for several of the cases. This allows the viewers to see several aspects of the same or related cases.

We found *Fundus Fundamentals* to be a good photographic atlas of retinal disease in its present state of development. If more detailed descriptions, i.e., more didactic pathologic information and come diagnostic/treatment outlines, were included with the CD-ROM, then this would be an excellent learning resource.

Reviewer: Dr. Connie L. Chronister and Dr. Christopher A. Rinehart
Pennsylvania College of Optometry

INDUSTRY NEWS

Companies appearing on these pages are members of ASCO's Sustaining Member Program. Sustaining Members are listed on the inside front cover of each issue. Membership is open to manufacturers and distributors of ophthalmic equipment and supplies and pharmaceutical companies.

Varilux and Silor Reorganized Under Essilor

Essilor of America (EOA), Inc. has reorganized its spectacle lens businesses, a move that ties together its Varilux and Silor divisions through a unified management.

Under the reorganization, Varilux and Silor will join to form a new company, Essilor of America Lens Division. In a story in the February 5, 1996, issue of *Vision Monday*, Essilor executives said the new company will be centralized for administration and infrastructure functions and decentralized for sales and customer support.

"We have to serve a new and changing marketplace, and this new structure addresses the marketplace as it exists today," said Jacques Stoerr, president of EOA. "We will focus on our customers and be organized by customer segment rather than product line."

Richard Kapash, an industry veteran who most recently was president of Silor, will serve as president of the Lens Division, which reports to EOA. His responsibilities include manufacturing and operations.

Michael Daley, the current president of Varilux, will serve as president of the Commercial Lens Group, a unit within the Lens Division. He will oversee the activities of a restructured sales and marketing organization for Varilux and Silor, as well as a new retail sales unit, the Essilor Lens Group.

Rod Tahrán, O.D., currently of Varilux, will be vice president of professional relations. Michael Ness, also of Varilux, will serve as vice president of strategic marketing. Dick Fulmer from Silor will serve as vice president of customer support.

According to Kapash, Essilor will continue to make important

distinctions between Varilux, which has offered only progressives, and Silor, which offers a broad product line. "We recognize the value of the Varilux distributors, and the equity and value of the Varilux name. We're not going to do anything to damage that."

Daley said that Varilux will continue to emphasize its branded products. He said certain products, including non-PALs, will be added to the line and offered to Varilux labs exclusively.

Essilor To Establish Wholesale Optical Laboratory Network

Essilor of America, Inc. (EOA), the St. Petersburg, FL based lens manufacturer, announced that it will be acquiring Omega Laboratory Group of Dallas, TX, through the purchase of the Benson Eyecare Corp. As part of the Benson acquisition, all non-Omega Group operations will be spun off into a new and separate company unaffiliated with EOA.

EOA plans to enter into negotiations with Varilux laboratories to establish a parallel network of wholesale laboratories to form the "Essilor Laboratory Group." The companies that will join this group will maintain their individual name, management and product selection. Jacques Stoerr, president and chief operating officer of EOA, stated that he could not discuss any specifics at this time but would have additional information within a few weeks.

Bausch and Lomb Provides Curriculum Supplement

Optometry students can now get an insider's view of the impact of their impending choices about a mode of practice, courtesy of

Options in Optometry, a curriculum supplement program provided by Bausch & Lomb.

The campus-based program offers students an opportunity to investigate their options by interacting with practicing optometrists. Bausch & Lomb sponsors the program and recruits local eye care professionals (usually recent school alumni) to participate in a presentation to students that focuses on the professional's experiences with their current mode of practice.

"This program differs from traditional practice management courses for students because it addresses the most fundamental decision the student faces — what mode of practice to choose," said William T. Reindel, O.D., director of professional market development for Bausch & Lomb. "Each year, more than 1,000 new professionals graduate from the 16 U.S. optometry schools and begin to establish themselves professionally," Reindel added. "Supporting the choices that impact their career, lifestyle and lifelong professional satisfaction is an important part of Bausch & Lomb's commitment to their future within the professional eye care community."

Bausch & Lomb has supported this program at Ferris State University since 1988. Because of students' high level of interest, the company has begun to offer the program to all U.S. schools. Donald H. Lakin, O.D., associate professor in the college of optometry, originated the program at Ferris in 1986, based on his 25 years of experience helping students make choices about their future.

"Ferris started the program because our instructors felt that students needed to interact with recent graduates who are experiencing the results of decisions on

where and how to begin their professional lives," said Dr. Laki.

The Options in Optometry Program is now available to all U.S. colleges of optometry and is designed for 3rd and 4th year students, with students in years one and two also invited to participate. Programs were conducted at the following schools in November and December 1995: The Ohio State University, The New England College of Optometry, State University of New York and the University of Alabama at Birmingham. Additional schools are scheduled to host the program throughout 1996.

Wesley-Jessen Announces Two Key Appointments

Wesley-Jessen has appointed Patrick Tierney as director of marketing and David D. Weber as director of management information systems.

Tierney comes to W-J from Biosource Technologies, Inc., Vacaville, CA, where he was vice president of marketing for the biotechnology firm. At W-J, Tierney will be responsible for professional and consumer marketing, market research and marketing services.

Weber joins W-J from Knoll Pharmaceutical Company, Lincolnshire, IL. In his new post, Weber will initially oversee the upgrade of W-J's information systems and technology services upon relocation of computer facilities from W-J's former corporate headquarters in Chicago to its new suburban headquarters.

Polymer Technology Creates A Website

Polymer Technology has developed WEBSIGHT, the company's new home page found on the World Wide Web. It includes 40 pages of interlinked information about vision care, as well as Polymer contact lens materials and solutions products. Information is geared to both the consumer and the practitioner.

Cynthia Lee-Ryden, Polymer's vice president, says: "It's a low-cost way for the company to reach millions of consumers and a very low-

cost way for consumers to be better educated on vision care and our products." Interested eyecare professionals who have access to the Web can reach WEBSIGHT at the address <http://www.polymer.com>.

Transitions Targets Consumers With Campaign '96

Transitions Optical is rolling out Campaign '96, its new multimillion-dollar national consumer advertising campaign. Ads for Transitions lenses will run from February through the end of August on ABC, CBS and NBC as well as on several cable channels.

"Because of the consumer demand for Transitions lenses generated by last year's national campaign, many dispensers who offered the product saw their sales go through the roof," said Rick Elias, president of Transitions Optical. "With even higher consumer advertising expenditures for Transitions lenses this year, both our business and the entire industry should benefit."

The campaign will use the same "Right in Any Light" television commercials and print ads as last year. Featuring a pair of "floating" Transitions lenses, the ads simulate for consumers how the lenses change from light to dark in indoor and outdoor situations.

Corning Launches New Ad Campaign

Corning is planning a new ad to counteract the common misperception that glass photochromic lenses are always substantially heavier than plastic photochromics.

The ad features a photograph of two weight scales, one with Corning® PhotoGray® THIN & DARK™ glass photochromic lenses and the other holding a pair of plastic photochromic lenses in a n identical gram, both with -2.00D prescriptions.

According to Rosemary Russell, promotion specialist, Corning Optical Products, the photo offers proof that the Corning lenses are only a few grams heavier than the plastic lenses — the difference being about the weight of a nickel.

"The difference in weight between Corning Photogray THIN & DARK lenses in minus powers and plastic lenses can be quite small," Ms. Russell added. Other advantages are that they darken to a deeper tint in moderate and hot weather, they resist scratching and are optically superior to plastic photochromic lenses and their photochromic action last a lifetime.

Luxottica Gives the Gift of Sight

The Luxottica Group, its LensCrafters subsidiary and Helen Keller Services for the Blind recently joined together to conduct a "Give the Gift of Sight" Hometown Day at the Merrick Community Nursery School on Long Island. Helen Keller Services has been conducting this program since 1965. It was joined three years ago by LensCrafters, and now several Luxottica staff members have joined in this training program to test children for early signs of visual defects.

Luxottica volunteer Jean Scott, vice president of product development, was grateful to be involved in such a worthwhile project. Additional Luxottica volunteers will be trained to assist in screening sessions scheduled to take place in other locations in the future.

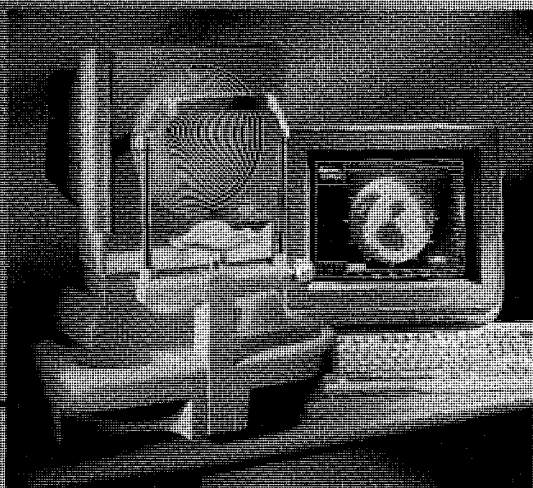
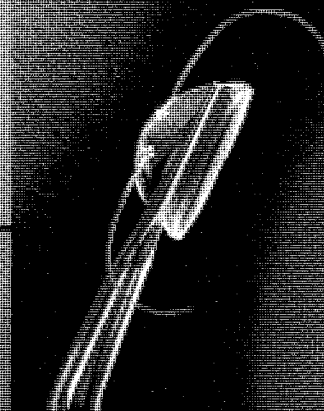
Marcolin Campaign Emphasizes Frames Durability

"A Marcolin frame is for today, tomorrow and tomorrow." That's Marcolin's new ad slogan that reinforces the enduring qualities and durability of the frames. The new ad campaign features beautiful photography in exquisite outdoor settings such as a spacious beach scene and a lavish cornfield featuring nature at its finest.

The ads also feature an excerpt from the Marcolin Quality Assurance Manual which describes the extra care and special formula that goes into making these frames. To beautify every dispensary, Marcolin offers memorable point-of-purchase materials such as large and small counter cards as well as recall postcards. For more information, ask a Marcolin rep or call 1-800-645-1300.

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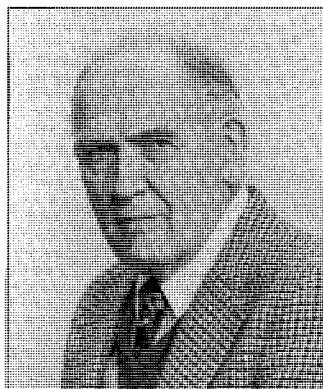
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In Remembrance



Dr. Glenn Fry

Optometry lost one of its pioneers on January 5 when Dr. Glenn Ansel Fry, regents professor and professor emeritus at The Ohio State University, died. Dr. Fry was 87.

Over sixty years have passed since Dr. Fry became director of the optometry program at Ohio State in the summer of 1935.

He served as director until 1966. He was born in Wellford, South Carolina, and before coming to Ohio State, he earned a B.A. at Davidson College, a M.A. and a Ph.D. at Duke University. He was also a research fellow at Washington University.

Dr. Fry received virtually every high honor in optometry and vision science. His awards included the Tillyer Medal (Optical Society of America),

Distinguished Service Award (American Optometric Association), Gold Medal (Illuminating Engineering Society), and the Prentice Award (American Academy of Optometry). He received honorary degrees from the University of Munich, Waterloo University, State University of New York, Pennsylvania College of Optometry, New England College of Optometry and Northern Illinois College of Optometry.

In 1935 Dr. Fry established the first physiological optics program in the nation associated with an optometry program. The first Ph.D. graduate of the program was Dr. Henry W. Hofstetter in 1942. Dr. Fry carried out significant work for the military during World War II, conducting research in color blindness and aerial photography.

The family of Dr. Fry has requested that memorial gifts be sent to:

The Glenn A. Fry Memorial Fund
College of Optometry
The Ohio State University
338 West Tenth Avenue
Columbus, Ohio 43210

ASCO Meetings Calendar 1996

March 1996

- 15th - Board of Directors Meeting (Lansdowne Conference Resort, Leesburg, VA)
- 15th-17th - Critical Issues Seminar (Lansdowne Conference Resort, Leesburg, VA)

June 1996

- 11th - Student Affairs Officers Workshop (Sparks, Nevada)
- 19th - Executive Committee (Portland, Oregon)
- 20th - 21st Annual Meeting (Portland, Oregon)
- 21st - Annual Luncheon (Portland, Oregon)
- 23rd - Sustaining Member Advisory Committee Breakfast (Portland, Oregon)

August 1996

- 9th-11th - Residency Education Forum (Lansdowne Conference Resort, Leesburg, VA)

* Standing and ad hoc committees meet by conference call throughout the year.

Total Quality Education

Julie Schornack, O.D., M.Ed.

The concept of Total Quality Management — TQM — is not a new one in business and industry. However, only in recent history have we seen these concepts affecting higher education. It seems that some of the same catalytic circumstances that drove industry to embrace this management style are being evidenced in institutions of higher learning. In support of this idea, Dan Seymour, in the book *On Q, Causing Quality in Higher Education*, discusses four driving forces behind the recent move of institutions of higher learning to subscribe to TQM principles: competition, costs, accountability and service orientation.¹

Competition - We can certainly apply these challenges to optometric education and sense their significance. In the late 1980s, optometry, along with all the health professions, experienced a dip in the applicant pool. Although optometry has experienced a recent upsurge in applicants, it is felt that the competition for quality applicants will continue in the health professions. Additionally, edu-

cational institutions face the challenge of how to position optometric teaching clinics in order to compete in the managed care arena.

Costs - The costs of higher education contribute to competition among schools and greatly increase the level of student indebtedness. A delicate balance must be drawn between upward spiraling tuition and resource management.

Accountability - The many consumers that every educational institution serves have become increasingly savvy and demanding in their expectations. Each institution deals with accountability issues to students, faculty, alumni, patients, practitioners, support staff, governmental agencies, etc. Levels of performance are imposed upon us by each of these "consumer" groups.

Service Orientation - This concept ties in with accountability and gets to the heart of "Are we satisfying the customer?" For each school, identifying each customer group and determining if you are meeting their expectations is a key element of service.

If Total Quality Management is invading our colleges and universities as a response to challenges, the key question is "What exactly is TQM?" E.W. Gore, in *Total Quality Management in Education*, describes it

as a combination of continuous improvement coupled with a focus on the requirements and expectations of the organization's customers.² In addition, most TQM strategies rely on managing by statistics, setting quality as a long-term goal for every member of the team, and emphasizing the importance of each team member by empowering each individual and treating him or her with respect.

An examination of recent actions by ASCO serves as a model of TQM principles at work. Commencing in 1992, ASCO, working closely with the American Optometric Association, took a proactive role in developing a series of summit conferences on optometric education. These summits were born out of a commitment to a future of quality in optometric education. The representatives at these summits represented a wide selection of the optometric community. The multiple, topic-focused summit conferences were specifically designed to address the effect which the expanding role of optometry and the ever-expanding body of optometric knowledge would have on optometric education; the financial ramifications of the recommendations were considered as well. Goals were set at each summit conference and each member of the team had a responsibility to contribute. The summit series responded to the voice of the optometric "customer" for continuous improvement.

Likewise, the ASCO Board, sensing that it was not fully representing the growing number of optometric education "customers," undertook a revision of the ASCO Strategic Plan. Following the June 1993 ASCO Annual Meeting, a committee was formed to review the mission and bylaws of the association. From this committee came the revised strategic plan that is currently used by ASCO. The plan outlines ten specific strategic objectives for optometric education. These ten objectives cover the areas of: 1) association governance and organization, 2) clinical education, 3) continuing professional education, 4) curricula enrichment, 5) government affairs, 6) human resource development, 7) information services, 8) inter-institutional communication, 9) resource development and 10) student recruitment and financial aid.³ Each strategic objective has a very specific aim and an explanation of the objective. The document is used as a

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guide to direct committee activity.

In cooperation with ASCO, CIBA Vision developed and implemented the Total Quality Education (TQE) Grant Program. This partnership develops ASCO's strategic objective in resource development which states that, "ASCO will work with its sustaining members, industry, foundations and other potential sources of funding to identify, develop and implement programs and services of mutual interest." It also directly implements the plan's strategic objective, "to facilitate the development of faculty, administrators and health care educators who are central to optometric education."

The specific objective of the Total Quality Education (TQE) grant program is to encourage the use of TQM strategies in any and all aspects of optometric education. The requirements of the grants are flexible enough to allow each school to construct a program that fits its needs for quality improvement.

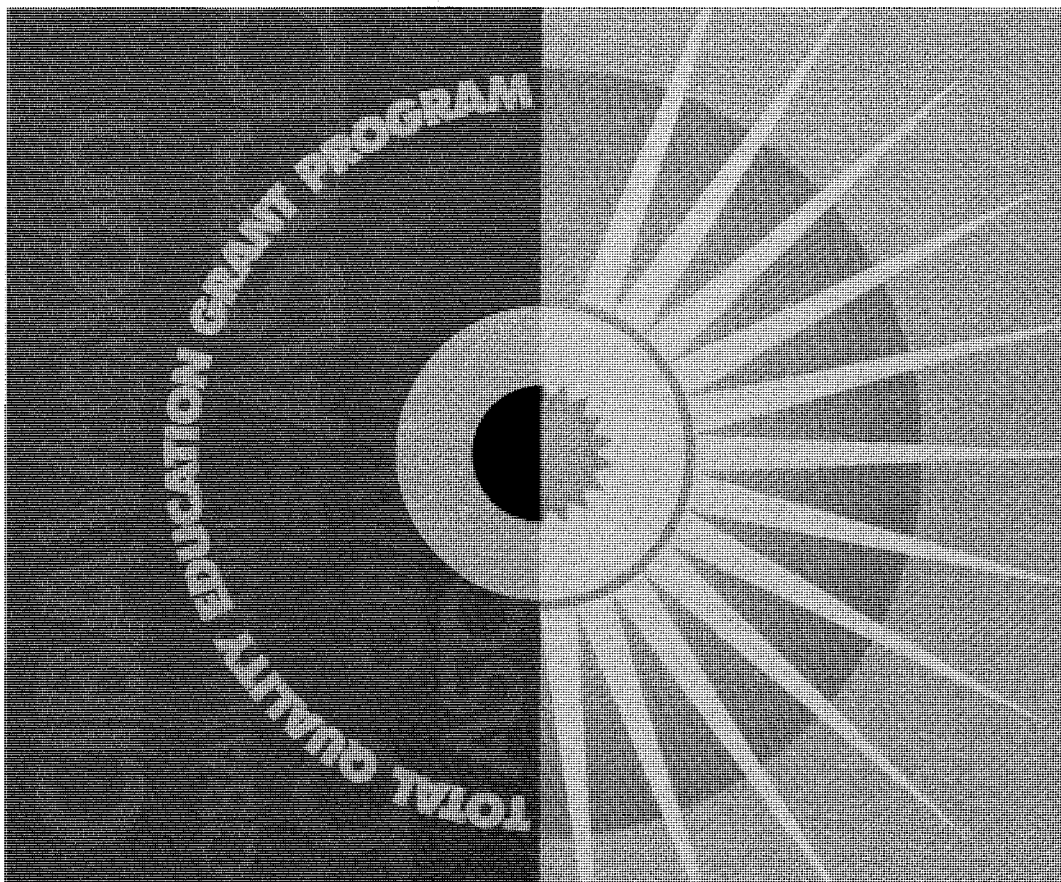
In this issue of *Optometric Education*, we read about two fine examples of projects that were supported by the ASCO/CIBA Vision TQE Grant Program. Dr. Roger Wilson from NEWENCO describes "Clinical Preceptor Conferences as a Venue for Total Quality Education." A significant portion of a student's clinical education at NEWENCO may occur at sites other than the internal clinic, as is the case in many other optometric institutions. The described clinic preceptor conferences serve as a vehicle to unite the affiliated clinical faculty at these sites both physically and educationally. Each conference focuses on a specific theme that has clinical faculty development goals. The TQE Grant was used to facilitate one of the conferences in enhancing students' problem solving skills in the clinical setting. This project fulfills ASCO's strategic objectives in a multitude of ways. This clinical preceptorship program serves the areas of clinical education, continuing professional education, curricula enrich-

ment, human resource development, information services, inter-institutional communication and resource development.

In the article submitted by Drs. Dennis Siemsen and Richard Foley, we read about a "Teaching Methods Course for Optometric Faculty." This project is an established program at the Illinois College of Optometry that is presented in two specific venues: to

customers and satisfying or exceeding their needs. It is crucial that colleges identify those "customers" that will best serve the needs of their schools.

It is hoped that the ASCO/CIBA Vision TQE Grant will help you to face the challenges in education head on. In the words of TQM guru W.E. Deming, "Quality comes not from inspection, but from the improvement of the process."⁴



the optometric residents and new faculty members and as an inservice format to the remaining faculty. And, in the true spirit of inter-institutional communication, the ASCO/CIBA Vision TQE Grant has sponsored this educational team at several sister optometric institutions.

There is one concern, however, with the examples of TQE grant projects described in these two articles. This grant should not be considered exclusively a faculty development program. Indeed, the objective of the grant is to "promote continuous improvement in all aspects of optometric education." The TQE Grant Program should be considered to be an optometric college or university development program. One of the key elements in TQM is identifying the

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Hints for Obtaining a TQE Program Grant

The mission of the CIBA Vision/ASCO TQE grant program is to encourage the use and incorporation of Total Quality Management concepts into the schools and colleges of optometry to promote continuous improvement in all aspects of optometric education.

TQE program grants are essentially "pilot" grants to help a school/college build a quality culture that is committed to continuous improvement in education, patient care, research and service missions through the use of Total Quality Management principles. TQE program grant requests should be more than a grouping of statistical tools and techniques. The requests should be for programs that clearly build on an overall management philosophy based on the following points:

1. "Problems" generally are due to faulty processes rather than personnel.
2. Decisions should be made on the basis of data rather than speculation.
3. Quality begins by identifying "customer" needs and then developing processes, services and staffing to meet those needs.
4. TQE can work only when the institution's culture encourages personnel at all levels to constantly think of new ways of doing things, to continuously strive to improve things and to satisfy "customer" needs.

Key items to consider when applying for a grant:

- Clearly define the "problem" to be addressed by the program.

Be sure to detail the process(es) that will be examined and the "customer"(s) needs that will be addressed by the program. What is the program intended to accomplish?

- Clearly define how the program meets the mission of the TQE grant program.

What TQM tools, techniques or principles will be used in the program? Specifically, how will the program contribute to education, to the school's/college's mission and ASCO's mission? How will the program help to keep the school/college on the cutting edge?

- Clearly explain what is new or innovative about the program.

Remember, the use of new technology does not automatically make something innovative if the program is not clearly challenging the status quo or looking for ways to improve processes.

- How does the proposed program fit into the school's/college's overall plan for creating a quality movement and culture?

- Clearly define what outcomes will be used to determine the success of the program.

What measurements prior to and after the program will be used to monitor success and allow for continuous improvement? Who will be responsible for tracking these outcomes and to whom will they be reported?

- What are the expected short- and long-term benefits to the intended "customers" of the program?

What follow-up action will be taken if there is a difference in actual versus expected benefits? Who will be responsible for overseeing these actions?

- What plan is in place to insure that changes occur as part of the program?

Many people have discovered that the most difficult part of quality improvement is not finding a remedy that works, but rather it is dealing with resistance to change. What commitments from personnel at different levels have been obtained to encourage new ways of doing things?

- What investments prior to or after the program will be made by the school/college to change to a quality culture, to develop new ways of assessing processes or to invent new ways of providing services?

TQE program grants are available to assist a school/college with achieving steps in an overall management philosophy based on quality, but the school/college must show that it is also willing to invest time, personnel and resources into this effort.

- Clearly define ways the program will be used to share information and key learnings with other schools/colleges.

With fiscal constraints in all of education, it is important that the schools and colleges begin to share information and learnings so that as many people as possible can benefit from limited resources.

TQE program grants work to strengthen a vital partnership between CIBA Vision, ASCO and the academic institutions. Because these grants aim to build on this partnership, there must be a commitment to change or improve on the part of the individual school/college. TQE program grants **do not fund**:

Equipment Computers
Faculty salaries Staff salaries
Clinical or administrative salaries
Research studies unless specifically and directly related to education and TQM
Ongoing costs that are required to monitor or implement a project beyond the original scope of the project.

Teaching Methods for Optometric Faculty

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Abstract

Very few faculty members in the health professions, including optometry, have had any formal training in teaching methods. Most faculty teach using the same methods by which they were taught. Just as the profession and the technology used has changed in just a few years, the methods by which we teach the next generation of optometrists must keep pace.

Illinois College of Optometry has developed a series of programs in teaching methods, geared primarily for the clinical educator. The program is presented in two formats. An intensive course for residents and new faculty members and a succession of inservice presentations for the faculty at large. The latter format has been adapted for presentation to faculty at other optometry schools and to groups of optometric educators. A recent addition has been the presentation of a modified workshop to students.

This paper describes the rationale behind the program, the curriculum, and the feedback received from faculty participants.

Key Words: teaching methods, supervision, feedback

Introduction

The traditional method of undergraduate health professions education has been centered around the lecture hall. The students (perhaps a hundred or more) are grouped in a darkened room with a learned professor who is attempting to impart his or her infinite knowledge on the masses. With the advent of the slide projector and other audio-visual aids (introduced to liven up an otherwise boring encounter) the lights are dimmed, further removing the students from control of their own learning. Students retaliate by attempting to take copious notes (or paying a note-taker to do so) or by taping the lecture to preserve a verbatim account of the proceedings. The student then attempts to memorize this material, which has no apparent relationship to clinical care in the eyes of that student. The last phase of this exercise in learning is for the student to regurgitate the information to which they were previously exposed on a written examination.

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This is not the way we in optometry treat our patients. We do not (or should not) treat them as textbook cases, or mere manifestations of data to be analyzed and diagnosed. Why then, do we attempt to train doctors this way?

Are There Better Ways of Teaching?

Why should optometric institutions even consider a change in their teaching styles? Within health professions schools, courses are usually developed around the lecture and laboratory. This action is partly based on tradition, part on efficiency. Faculty tend to present their material to their students in the same way that they themselves learned it. The lecture is also deemed efficacious, since volumes of information can be presented to large numbers of students at a time. What is missing here is whether this teaching format is consistent with the way students learn.

In *Physicians for the Twenty-First Century*, the Panel of the General Professional Education of the Physician and College Preparation for Medicine¹ (GPEP) addressed this issue. Conclusion three considered the need for physicians to continually acquire new knowledge and new skills, and that professional education needed to prepare students to learn throughout their lives. The report went on to make six recommendations to accomplish this goal. The recommendations included: Evaluating the ability to learn independently; reducing scheduled time to encourage independent learning; reducing lecture hours to discourage passive learning; promoting independent learning and problem solving; using appropriate evaluation methods to encourage independent learning skills; and promoting the use of information sciences.

Knox, Suter, and Charmichael,² in their subgroup report on learning skills, expanded on the GPEP recommendations, and commented on the significance of learning skills, proposed approaches, impediments, and research suggestions in the area of learning skills. They also offered recommendations, of which three are primary to this discussion:

Medical faculties should review their curricula to identify the best ways to emphasize acquisition or strengthening of student's learning skills.



Medical schools should encourage faculty members to use various approaches to instruction that develop students' learning skills and attitudes.

Medical faculties should use evaluation methods that assess and reward student's learning and problem-solving skills.

These statements lead to a broader question: How do health professions students learn? Newble and Entwistle³ described learning approaches as *surface, deep, and strategic*. In their discussion of each of these, they describe the motivation of the student to employ these approaches, and the processes by which they learn. The student interested in rooting out the evidence in relation to the conclusions in a particular situation was said to pursue a

deep approach to learning. Other students, whose predominant motivation was to identify the important facts and ideas and relegate them to memory to be utilized later were considered to be utilizing the *surface approach*. It is the *deep approach* which should be encouraged in our professional students. These learners develop an ability to interrelate ideas, which enhances their problem solving skills. In order to develop these skills in students, the authors encourage student participation in problem-solving activities requiring the use of relevant knowledge. Critical thinking is also strongly advocated.

More specifically, certain principles of learning may be used to develop such skills. Foley and Smilansky⁴ outlined several principles of learning to be considered when designing an instructional module. These are:

The student should be provided opportunities to be an active rather than a passive learner.

The student should be provided opportunities for understanding the logic underlying teaching activities.

The student should have the opportunity to learn through a variety of educational resources.

The student should be provided with models which serve as criteria for the expected performance.

Until the expected level of competence is attained, students should have adequate opportunities to practice using the knowledge and skills they have learned and receive feedback on their performance.

Students should be provided with opportunities to examine ways of adapting learned knowledge and skills based upon the characteristics of a given situation.

Overall, students should have learning experiences which are positive and satisfying rather than negative and frustrating.

Educators in optometry have also called for reforms in teaching modalities. Hines⁵ suggests that the changes, content and format of the National Board of Examiners in Optometry examinations offer us a unique opportunity to develop innovative teaching strategies. Dayhaw-Barker⁶ proposes the development of new technological teaching tools to meet the challenge of expanding the scope of our teaching as resources are strained.

Optometry has more recently reviewed the need to improve the way it trains its future colleagues. During the period 1992-1994, optometry engaged in a self-evaluation which was entitled, *Summit on Optometric Education*. The Summit included a series of eight conferences. The Curriculum Conference, held in Denver during the summer of 1993, and the Action Plan Conference, held in St. Louis in October, 1994, are of particular interest.

In 1995, a summary of the major actions and recommendations of the summit conferences was published which was entitled *The Georgetown Summit: A Critical Assessment of Optometric Education*. In the

Introduction to chapter three on the Curriculum Conference, several statements are made which challenge the profession to rethink the way it teaches its students. It encouraged educators "...to rethink their teaching methodology and to examine the demands on their students. Educators need to build educational strategies that focus on learning concepts..."⁷ A specific goal for the conference was "...to explore options for more effective delivery of the curriculum through innovative teaching and learning strategies."⁸

Included among the recommended action items was the creation of teaching and faculty centers, which would develop programs for faculty training and retraining, teaching methodologies and clinical teaching.⁹

To date, however, there have been limited attempts at developing Problem Based Learning (PBL) as a teaching strategy. One, by Scheiman and Whittaker¹⁰, developed a set of portable patient problem packs for use in a strabismus course, following the Barrows¹¹ model. Another, by Scheiman and Whittaker¹⁰, although it uses the term problem based learning and describes an innovative learning process, demonstrates an approach dissimilar from a true problem based curriculum model. The setting is one where problems are presented, but only as a tool for discussion. The students are not working independently, but rather in a very directed fashion.

The lack of literature about PBL in optometry may exemplify the difficulty in developing a true problem based curriculum in optometric education at this time. Even though a significant portion of the curriculum conference, held in Denver in 1993, as part of the Summit on Optometric Education, was devoted to innovative teaching styles, the literature indicates that the traditional approaches to teaching still prevail in optometry today.

Teaching Methods Courses

These findings prompted the authors to design a series of courses, workshops, and seminars on teaching methods for the faculty and students of the Illinois College of Optometry (ICO). It was the belief of the ICO administration that, even though an entirely new teaching modality such as PBL may not be practical, significant improvements in the use of tradi-

tional teaching techniques could be achieved. As a result, nine years ago, ICO decided to put on a summer teaching methods course for residents and new faculty. Through the use of individual, peer, supervisor, and video tape feedback, participants determined ways to analyze their strengths and identify ways to improve their lecture and clinical presentations. With formats that promoted active learning, faculty participants considered different ways to improve teaching their students psychomotor skills or techniques and to promote student problem solving in clinical settings.

Following is a summary of the topics which have been presented and their objectives.

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Improving Lecture Skills and The Lecture Teaching Lab

Good lectures skills can be taught, and should be reviewed with any instructor, experienced or not, so that the most effective lecture can be presented. Not every group responds to the same lecture techniques (e.g., students in class vs. doctors in continuing education).

This lecture skills program has the following objectives: 1) distinguish different instructional methods for different educational outcomes, 2) derive criteria that constitute organizing and delivering an effective lecture, 3) evaluate a videotaped lecture according to the above criteria, and 4) explore ways of improving one's own presentations.

After reviewing some of the key elements in successful lecturing, the class is divided into small groups of six to eight participants. Each participant is instructed to bring materials to prepare and deliver a 10-minute lec-

ture. Each participant delivers his or her lecture, which is videotaped. Following each presentation, there is an opportunity for the presenters and the group to engage in constructive feedback.

Case Based Laboratories

The goal of the course laboratory is to give the student hands-on experience and/or to reinforce concepts presented in lecture. Case-based laboratories are a means to fulfill educational objectives through the judicious use of clinical case examples. Not to be confused with *problem based learning*¹², which describes a complete curriculum of self-paced, problem oriented education, the case-based laboratory process has the instructor merging case examples with their objectives for student learning outcomes to reinforce the desired concepts. Patient management problems (PMPs) and role-playing by students and faculty are tools utilized in this technique. Workshop participants bring their laboratory objectives to the program, which are then supplemented with clinical cases, and sample daily activities for students are developed.

Promoting Student Problem Solving in Clinical Situations

Developing student problem solving skills is a dilemma every clinical educator faces sooner or later. Many clinicians believe that this is an innate skill that cannot be taught. During this session, participants analyze a series of videotaped clinical teaching encounters in order to derive criteria that enhance/inhibit student problem-solving efforts in clinical teaching settings. The use of questions and simulations such as "Instructor Plays Patient" are examined for their applicability to optometric clinical teaching.

Effective Feedback and Supervision

While supervision of, and feedback to students should occur on a regular basis and in formalized meetings with students, too often these activities are neglected or not done effectively. This program assists clinical faculty in 1) delineating some of the key problems in providing supervision/feedback, 2) identifying criteria for providing effective formal feedback, and 3) performing and evaluating supervisory/feedback sessions. Reviewing and discussing videotaped vignettes of supervisory/feedback encounters

begin the session, which ends with role-plays in groups of three. Each participant then plays successive roles of teacher, student and observer.

Feedback and Supervision: The Student Factor

After presenting the faculty version of *Feedback and Supervision* on several occasions, it became clear that there was a significant student factor in making this a meaningful encounter. The faculty may have certain expectations about the student's participation in this segment of clinical training, but these expectations are usually not expressed to the students. This leads to student and faculty frustration, and less effective feedback. As a result, we decided to present a workshop to the students, basing the program on the same principles as the faculty course.

We began with a questionnaire about students' views on supervision and feedback. We started with the questionnaire because we were interested in the students' perceptions of their feedback experience before we presented a model based on what they should be expecting.

Next, we reviewed videotapes demonstrating the supervisory and feedback process. It is important to distinguish between the two concepts. In supervision, we are observing the students' behaviors and skills. This is an active, real-time process designed to immediately impact on the students' activity. This time is used to add to the student's knowledge base, assist them in their problem-solving skills, and make immediate corrections in their professional demeanor. Formal *feedback*, although quite similar in concept, is the process by which faculty summarize the students' performance, on a daily/monthly/quarterly basis. This is best achieved when it is provided in a timely, objective and preferably written form.

We then engaged the students in a discussion about their own experiences in the clinic with supervision and feedback. At first, most (we were working with a group of a little over a hundred fourth year students) were reluctant to speak out. They thought that their comments would somehow get back to their instructors and make their clinical lives more difficult. Eventually we were able to reassure them that they would not be identified, and they responded with a lively

conversation. Generally, they were not satisfied with the feedback they were receiving.

In the next phase of the student program we will be eliciting student responses to clinical situations and allowing them to participate in the same role plays as faculty, thereby giving them an opportunity to experience the same difficulties as faculty do when attempting to provide meaningful feedback.

Faculty Response to the Programs

The responses to the programs from the various schools have been very positive. Many of the comments express the frustration many clinicians feel when placed in a teaching situation with little or no indoctrination as to how to proceed. Even when student evaluation of instruction points out deficiencies in an individual's teaching methods, no assistance is generally available to remediate the problem areas. These workshops give optometric faculty additional resources to further develop their teaching skills.

Although critical comments are few (and we distribute an evaluation instrument after each workshop), there is one statement which comes up in almost every school. Some faculty expect to be lectured to, and are disappointed when they are challenged to learn by doing and through self-discovery methods! These are hands-on workshops. The techniques are learned by observing examples and reinforced by actual implementation. For this reason, participants are expected to come ready to participate. Some of the best comments and ideas come from the group themselves. The sum total of the educational experience of the group (both as faculty and students) provides a wealth of information that participants can apply directly to their own situations. These programs do not offer theoretical rhetoric, but real-world skills to be immediately applied in the clinic, classroom and laboratory.

Conclusion

Faculty development programs to improve the teaching and evaluation skills of clinical optometric faculty have been identified by many sources within optometry and other health professions as necessary to help opto-

metric education meet the demands of the next generation. Programs such as the one described here, and others being developed by the members of the American Academy of Optometry's Section on Optometric Education, will give optometric faculty the resources they need to meet the challenges of the future.

Acknowledgement

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Clinical Preceptor Conferences as a Venue for Total Quality Education

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Abstract

Clinical education at the New England College of Optometry (NEWENCO) is delivered through a broad network of internal, outreach, and affiliated external clinics. The affiliated clinical faculty serve a vital role within the Division of Clinical Sciences by educating final year students at a variety of locations and practice settings. However, geographically remote faculty have limited opportunity to be directly involved with educational and administrative aspects of the College. In 1990 NEWENCO began hosting a conference for clinical preceptors. The conferences enabled the administration and clinical faculty to convene to discuss clinical education through formal programs designed to promote clinical faculty development. The conferences also served as a forum to increase communication between affiliated faculty, program coordinators, and students. This paper presents an overview of preceptor conferences at NEWENCO from 1990-1995.

Key Words: clinical education, preceptor conference

Introduction

In the 1970s Mullen¹ developed a system of outreach clinics to educate optometry students at the New England College of Optometry in multidisciplinary primary care. Over the years the College continued to expand its affiliations. Clinical education is presently delivered at over 50 College operated and external affiliated sites located in metropolitan Boston, regionally, nationally, and internationally (Table 1). The affiliated network of clinical programs is now highly diverse and offers a broad experience through an expansive patient base, resulting in a challenging clinical education for students. The dedicated faculty who teach at these affiliates ensure that the College's students are able to learn the principles and scope of clinical practice at a level that meets or exceeds the standards mandated by state and federal credentialing bodies.

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Clinical education that is presented in this manner (i.e. a variety of internal and external clinics) has received broad support by professional optometric educators.^{2,4} However, geographically remote clinical affiliations may pose significant challenges for campus-based faculty administrators or department chairs who are responsible for the management and administration of these programs. Potential areas of concern include ensuring consistent and uniform training of students, administrative and grading protocols, standardized preceptor expectations, maintenance of the standard of care, and preceptor attitudes towards clinical teaching (Table 2).

The faculty at the affiliated sites train NEWENCO's students year round, making it even difficult for the local preceptors to attend faculty meetings. Aside from the presence of the students, regular mailings from the Office of External Clinical Programs, and telephone and occasional contact with the program director during site visitations, the external affiliated faculty rarely have an opportunity to participate in the culture or governance of the College.

In 1990 NEWENCO began sponsoring preceptor conferences in an attempt to address these and other issues, and to encourage the affiliated faculty to feel a sense of belonging at the institution. The conferences also served as a forum to exchange information and facilitate the clinical education process. This paper summarizes the experiences of the preceptor conferences held at the New England College of Optometry from 1990-1995.

Need for Preceptor Conferences: Background

Students in the final year of training at NEWENCO (including students in the traditional four-year professional degree program, two-year accelerated program, and two-year advanced standing international program⁵) rotate through the College's primary teaching clinic, the New England Eye Institute, as well as a primary care health center, a secondary care facility, and an elective rotation (assigned from various primary, secondary, and tertiary care affiliates). This curriculum design⁶ has enabled the College to offer training to its students that readily meets the skills and knowledge required for entry-level competency for the practice of optometry.

Table 1
Clinical Affiliations of The New England College of Optometry

Barnet Dulaney Eye Center Phoenix, AZ	Leahey Eye Clinic, Inc. Lowell, MA	Veterans Affairs Medical Center Baltimore-Fort Howard Baltimore, MD
Bolling Air Force Base Washington, DC	Martha Eliot Health Center Jamaica Plain, MA	Veterans Affairs Medical Center Edith Nourse Rogers Memorial Hospital Bedford, MA
Braverman Eye Center Hallandale, FL	Mather School Dorchester, MA	Veterans Affairs Medical Center Brockton, MA
Brighton Marine Health Center Brighton, MA	Naval Hospital Groton, CT	Veterans Affairs Medical Center Fresno, CA
Brooke Army Medical Center San Antonio, TX	Naval Hospital Newport, RI	Veterans Affairs Medical Center Lowell Division of the Boston Outpatient Clinic Lowell, MA
Capital Eye Consultants Fairfax, VA	Naval Hospital Portsmouth, NH	Veterans Affairs Medical Center Manchester, NH
Cataract & Laser Institute San Antonio, TX	Naval Hospital- Roosevelt Roads Ceiba, PR	Veterans Affairs Medical Center Montrose, NY
The Cotting School Lexington, MA	New England Eye Institute Boston, MA	Veterans Affairs Medical Center Newington, CT
Dimock Community Health Center Roxbury, MA	New England Shelter for Homeless Veterans Boston, MA	Veterans Affairs Medical Center Northampton, MA
Dorchester House Multi-Service Center Dorchester, MA	North End Community Health Center Boston, MA	Veterans Affairs Medical Center Portland, OR
East Boston Neighborhood Health Center East Boston, MA	Omni Eye Services of Atlanta Atlanta, GA	Veterans Affairs Medical Center Providence, RI
The Eye Foundation of Utah Murray, UT	Omni Eye Services of Baltimore Baltimore, MD	Veterans Affairs Medical Center Eastern Blind Rehabilitation Center West Haven, CT
Fernald School Waltham, MA	Omni Eye Services of New Jersey Iselin, NJ	Veterans Affairs Medical Center West Roxbury, MA
Geiger-Gibson Health Center Dorchester, MA	Perkins School for the Blind Watertown, MA	Veterans Affairs Medical Center Worcester, MA
Indian Health Service Albuquerque, NM	Pine Street Inn Boston, MA	Veterans Affairs Outpatient Clinic Boston, MA
Indian Health Service Santa Fe, NM	South Boston Community Health Center South Boston, MA	Vicenza 45th Field Army Hospital Vicenza, Italy
Inter American University College of Optometry San Juan, PR	South End Community Health Center Boston, MA	Vision Institute of Canada North York, Ontario Canada
Joslin Diabetes Center Beetham Eye Unit Boston, MA	Dr. Stern's Visual Health Centers Miami, FL	Washington Navy Yard Branch Medical Center Washington, DC
Kaiser Permanente Rockville, MD	University of Waterloo School of Optometry Waterloo, Ontario, Canada	Western Massachusetts State Hospital Westfield, MA
Lahey Eye Institute Peabody, MA	Upham's Corner Health Center Dorchester, MA	

From the College's perspective, there was already a 20-year history of positive relationships with affiliated sites that had successfully integrated student teaching programs into a mode of practice, namely the City of Boston's neighborhood health centers.⁷ As the College's Division of Clinical Sciences expanded its clinical affiliations, the faculty became much more diverse. This diversity enhanced clinical education insofar as students were able to learn from optometrists who had been educated at other schools and colleges and practiced in many different settings.

But as the affiliate numbers increased, the ability to communicate program philosophy and objectives to the faculty became more challenging. For example, when the affiliated preceptor had faculty appointments at multiple institutions, the task of applying a particular college's educational objectives or grading criteria was at times challenging and confusing. For some faculty, balancing patient care and professional responsibilities along with serving as a professional role model and clinical educator to students was a daunting task.

By the late 1980s, the program director was responsible for maintaining nearly 50 affiliated programs, with close to 75 affiliated faculty. This necessitated time away from the College, which resulted in inefficient utilization of departmental time. Since the full-time faculty already had regularly scheduled faculty meetings and retreats to discuss curriculum issues, governance, and other matters of institutional import, the director felt that the affiliated faculty could benefit from a similar program.

In 1989, the director submitted a budget to support a conference for external clinical preceptors. The budget was approved and the first two-day conference was held in 1990.

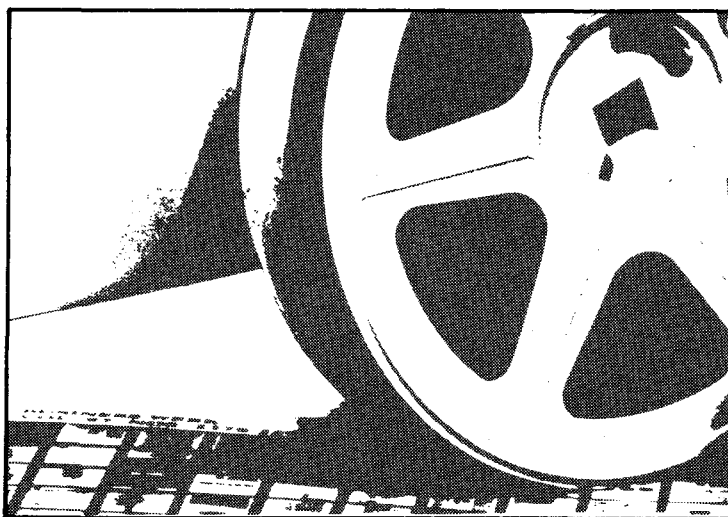
Preceptor Conferences: Format and Summary

Preceptor conferences at NEWENCO served numerous institutional purposes: educational, administrative, and collegial (Table 3). First, the conferences served to unite the faculty, enabling them to feel a part of the institution by coming together as a group, meeting other faculty and administrators, and talking with future students about their practices. The program director, department

Table 2
Potential Areas of Concern with External Affiliations

Compliance with college's administrative protocols
Educational objectives at affiliate do not support mission of the college
Preceptor grading protocol different than that of the college
Standards of care significantly different than those taught at the college
Preceptor teaching style, attitudes, behaviors incompatible with school's objectives
Remote management challenges of educational and administrative issues
Multiple faculty appointments, each with unique responsibilities

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chairs, and internal faculty who taught didactic and clinical optometry to second and third year students were able to use the conference as a forum to discuss and debate the training of students (prior to entry into the final year) with the affiliated faculty. Conferences also enabled the affiliated faculty to share ideas, teaching experiences, and educational strategies with the College's regular faculty and clinical program directors.

An important administrative feature to the meetings was the opportunity to review or inform the faculty about the overall mission of the College, including institutional breakthrough goals, endowment, international initiatives, and curriculum

reform, and to respond to their questions. The College was also able to express its appreciation and gratitude for the support and commitment that the affiliated faculty have provided to the College and its students over the years.

Format

The preceptor conferences were scheduled over two days. The agenda was divided into various components:

- Reports
 - Administrative (President, Deans)
 - Educational (Program Directors and Department Chairs)
- Faculty Development Seminar
- Study groups

Informal preceptor meetings with students

Socializing and networking with other faculty

Wrap-up and planning for future conferences

The conferences served as a quasi-faculty meeting for the affiliated faculty. Seminars were presented within the context of strengthening clinical teaching skills, sharing clinical teaching philosophies, or examining various aspects of clinical education. Study groups served as interactive problem-solving sessions.

On the second day, study groups presented a report of their key points in a plenary session. A discussion period followed, which engaged the faculty in the group reports and other highlights of the seminar. This time was also used to tie together the various components of the program and consider the priorities for the Division of Clinical Sciences in the upcoming year.

At the conclusion of each conference, an evaluation form was distributed. The feedback on the program provided an assessment of the strengths and weaknesses, and offered suggestions for future conferences. The program director used the study group reports, wrap-up highlights, and the evaluative comments to design the theme for the next conference. Table 4 summarizes the participation and major themes of the College's conferences from 1990-1995.

Table 3
Institutional Objectives of Preceptor Conference

Educational	<ul style="list-style-type: none"> • Faculty development seminars • Review clinical curriculum goals and objectives • Debate clinical teaching issues • Provide feedback to clinical program administrators
Administrative	<ul style="list-style-type: none"> • Review mission of College • Update faculty on institutional initiatives • Garner faculty support
Collegial	<ul style="list-style-type: none"> • Cultivate professional relationships • Foster relationships with students • Receive institutional recognition and appreciation

Table 4
Conference Program Summaries

	1990	1991	1992	1995
Faculty attending	43	54	53	60
Seminar topic	Clinical grading	Responsibilities of the clinical teacher	Excellence in clinical teaching	Improving clinical instruction
Study groups	Each faculty was assigned to a group. The task was to delineate areas of training considered to be weak or lacking prior to entry into the final year rotations.	Discussion groups <ul style="list-style-type: none"> — Clinical precepting — Student competencies — Laboratory/diagnostic testing — Clinical grading — Affiliate relationships with the College 	Discussion groups <ul style="list-style-type: none"> — Transitioning from internal to external rotation — Linking evaluations to each rotation — Coupling quality teaching to quality eye care — Quality assurance and peer review — Pitfalls in clinical teaching 	Discussion groups <ul style="list-style-type: none"> — Interactive large group critique of teacher/student interactions — Small groups of 3 role playing teacher, student and evaluator

Chronological conference assessments and outcomes

The faculty assessment of the first conference (1990) was positive. Attendees felt a greater part of the institution and gained an appreciation for the "internal faculty's" efforts at providing a foundation in clinical sciences for students to draw upon at the external sites. Interacting with the regular faculty was also viewed as beneficial for the affiliated faculty, as exemplified by this quote: "I think that the exchange of ideas by the external and full time faculty members serves to enhance the education of your students." Negative feedback was minimal. As this was the initial conference, the primary outcome of this meeting was the opportunity for information exchange and a general discussion of student competencies prior to entry into the final year. Participants wanted future conferences to de-emphasize the College's detailed explanations of the curriculum and to increase the structure of the study groups.

At the 1991 conference, a majority of the attendees did not find value in the numerous administrative reports and program updates. However, the faculty did feel that the study groups stimulated thinking about their role as teachers versus their expectations of students. Thus, the conference served as a valuable forum for faculty to communicate ideas and offer suggestions for improvements to the clinical program. As a result of this conference, each affiliate agreed to develop specific goals and objectives for the rotation. The College then published this information in a revised Rotation Handbook, which was distributed to every student prior to placement into the external clinics in subsequent years. The College also agreed to provide students with a more comprehensive orientation about external clinical programs prior to placement into the clinical rotations.

At the 1992 conference, the feedback confirmed that camaraderie had prevailed. The opportunity to meet and chat with other members of the clinical faculty was cited as superseding in some ways the structured elements of this conference. This was acknowledged verbally and in writing by numerous participants. There was a major emphasis placed upon grading and assessing students' clinical

skills at this conference. An important outcome was the creation of an administrative policy whereby a student's previous written evaluation would be shared with the next preceptor. The faculty and clinical administration agreed that this policy had significant educational value. Furthermore, there was already support for this approach in the medical education literature.⁸

During a three-year conference hiatus, the clinical administration acted on another recommendation from the 1992 conference: to revise the goals and objectives for the final clinical year. In 1994 the director appointed an ad hoc committee of "internal" and "external" faculty to complete this task, and the revised goals and objectives were disseminated later that year.

The College sponsored its fourth conference in 1995. This conference was different in two significant ways: (1) clinical faculty and administrators from other schools and colleges of optometry were also invited to participate, and (2) consultants in the field of clinical education were hired to provide the participants with interactive seminars which were specifically tailored to the needs of the faculty. One seminar was designed to help instructors enhance students' problem-solving skills in the clinical setting. The other seminar reviewed various styles of providing feedback to students, in a manner that would encourage improved clinical reasoning.

The feedback from the 1995 conference was very positive. In the written evaluations, numerous faculty commented on how worthwhile the topics were, and the fact that an interactive conference enabled them to share their ideas and concerns with other members of the faculty. Other consistent comments stated that the program was thought-provoking, informative, and relevant to them as clinical teachers. Many preceptors commented that the conference had stimulated their thinking about precepting behaviors and methods to enhance their clinical instruction techniques.

As an outcome measure of this conference, the clinical administration plans to compare pre- and post-seminar student evaluations of clinical instructors, in order to determine whether or not such a program has

any measurable effect on precepting skills.

Conclusion

The preceptor conference experiences at NEWENCO have demonstrated that there is significant institutional value in regularly convening a formal meeting of the externally affiliated faculty. These on-site conferences have enabled the College to reinforce educational policies and objectives, and provide remote faculty with a forum to communicate with colleagues and the College's administration. Most importantly, the College has used these conferences as a formal occasion to acknowledge the commitment and contributions of all clinical faculty to the overall advancement of clinical education, patient care, and the profession.

Acknowledgment

The 1995 conference was partially underwritten by a Total Quality Education (TQE) grant, funded by CIBA Vision Corporation, and jointly administered by the Association of Schools and Colleges of Optometry (ASCO) and CIBA Vision. The author wishes to thank Drs. Dennis Siemsen from the Illinois College of Optometry and Richard Foley from the University of Illinois at Chicago for conducting the seminars at the 1995 preceptors' conference.

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Reading Habits of Optometric Educators

Janice M. Jurkus, O.D., M.B.A.
Gerald Dujsik, M.A.L.S.

Abstract

A survey was used to investigate the reading habits of optometric educators in the United States. Specifically, we looked at which journals were read most often and at which level of reading intensity. Seventy-seven (77) English language ophthalmic journals were listed. The survey instrument was pre-tested with a group of contact lens educators, then the full survey was distributed to all faculty at the sixteen schools of optometry in the United States.

The results indicate the journals based on membership in an organization are read or scanned more often than journals that are purchased by subscription. The results also identify specific target audiences and their reading preferences. This information is useful when deciding on a journal for the submission of a manuscript. The ranking may be used to determine which journal has the readership population interested in the manuscript topic. Librarians may use this information to determine which journals are used more frequently by the faculty when justifying the continuation of a subscription.

The periodicals most indicated as "read or always read" are *Journal of the American Optometric Association*, *AOA News*, *Review of Optometry*, *Optometric Education and Optometry* and *Vision Science*.

Introduction

The field of optometric health care is rapidly changing. The optometrist must keep current with new procedures, techniques, research and products. Jeffrey¹, in fact, states that "It is an ethical prerequisite in the practice of a caring profession that, after initial qualification, a member must continue his or her professional education." Optometric educators, in particular, must keep abreast with changes in the profession. Means of obtaining this new information include attending seminars, meeting with corporate representatives, talking with other health care practitioners, studying textbooks and reading current periodicals. The last source, periodicals, is the topic of this study.

The eye care field is expanding rapidly. Lyle² states that we are in the era of information explosion. There are over 105 English language periodicals that relate to the eye care field that are published each year. To read

each publication is not practical or necessary. Carter et al³, in 1978, did a survey which found that 39% of optometrists spent four or more hours per month reading journals. The amount of information available today has certainly expanded. It has been estimated that five working days per month would be required to read all articles that may be worthy of reading in a health profession. This amount of time is not realistic for today's professional.¹ Selective reading habits best serve the professional in the quest for continued education.

Purpose

The purpose of this study is to determine the reading habits of optometric educators. There are many reasons why this is of interest. Readership information may be helpful in determining which journal publishes articles of interest to a particular specialization. This would help authors submit manuscripts to the most appropriate periodical. The results may also serve as a guide to librarians when deciding which publications to make available. The study investigates which publications are read most often and which publications are read in detail. Newspapers, refereed publications and non-refereed publications are included in the study. For simplification purposes, the term 'journal' is used as a generic descriptor when discussing the various types of publications.

Procedures

A listing of seventy-seven (77) journals available in an optometric college library was compiled. In June-July 1993, educators at sixteen (16) schools of optometry in the United States and members of the Association of Optometric Contact Lens Educators (AOCLE) were asked to anonymously complete the survey. A packet of surveys was sent to an individual at each school who volunteered to distribute and return the survey to the principal investigators. The number of surveys sent equaled the estimated number of faculty members at each institution. A total of 586 surveys were distributed. The educators were asked to indicate their reading habit as it relates to the individual journal by checking one of the following choices.

- Don't read
- Skim/glance

Dr. Jurkus is an associate professor at the Illinois College of Optometry. She is chair of the Association of Optometric Contact Lens Educators Association

Dr. Dujsik is director of learning resources at Illinois College of Optometry. He is chair of the Association of Visual Science Librarians.

Table 1 : Journals marked as skim, read or always: Total Group

Rank	#read	Publication	Referred	Medline
1	223	Journal of the American Optometric Association	y	y
2	219	AOA news	n	n
3	201	Optometry and Vision Science	y	y
4	196	Review of Optometry	n*	n
5	188	Optometric Management	n	n
6	182	Journal of Optometric Education, JOE	y	n
7	162	Optometric Economics	n	n
8	158	Contact Lens Spectrum	n	n
9	152	Archives of Ophthalmology	y	y
10	136	American Journal of Ophthalmology	y	y
11	131	Computers in Eye Care	n	n
12	123	Ophthalmology- Journal of American Academy of Ophthalmology	y	y
13	119	Investigative Ophthalmology and Visual Science, ARVO	y	y
14	118	Clinical Eye and Vision Care	y	n
15	102	Survey of Ophthalmology	y	y
16	100	Contact Lens Update	n	n
17	93	CLAO Journal	y	y
18	90	International Contact Lens Clinic, ICLC	y	n
19	90	Annals of Ophthalmology	y	y
20	88	Optometry: Current Literature in Perspective	n	n
21	85	Problems in Optometry	y	n
22	84	EyeQuest Journal	n	n
	84	20/20	n	n
23	82	Optometry Today	n	n
24	76	Optometry Clinics	n	y
25	74	Eyecare Business	n	n
26	70	Journal of Behavioral Optometry	y	n
27	67	Ophthalmic and Physiological Optics	y	y
28	61	Vision Research	y	y
29	57	Journal of Optometric Vision Development	n	n
30	56	Journal of Clinical Neuro-ophthalmology	y	y
31	52	Ophthalmologica	y	y
	52	Neuro-ophthalmology	y	n
32	51	Cornea	y	y
33	49	Eye Care Digest	n	n
	49	Journal of Pediatric Ophthalmology and Strabismus	y	y
34	47	Vision Monday	n	n
	47	Ophthalmology Times	n	n
35	46	International Ophthalmology Clinics	n	y
	46	Retina	y	y
36	43	Eyecare Technology	n	n
37	41	High Performance Optometry	n	n
38	40	Journal of Ocular Pharmacology	y	y
39	39	Ophthalmology Clinics of North America	y	n
40	38	Optician	n	n
	38	Journal of the Optical Society of America	y	y
41	37	Journal of Vision Rehabilitation	n	n
	37	Journal of Cataract and Refractive Surgery	y	y
	37	Current Opinion in Ophthalmology	y	n
	37	Seminars in Ophthalmology	y	n
42	36	Documenta Ophthalmologica	y	y
	36	Eye Care Management Update	n	n
43	33	Visual Neuroscience	y	y
	33	Journal of Visual Impairment and Blindness	y	n
44	32	Professional Enhancement Strategies	n	n
45	31	Journal of Glaucoma	y	n
46	30	Graefe's Archive for Clinical and Experimental Ophthalmology	y	y
47	28	Binocular Vision and Eye Muscle Surgery	y	n
48	27	Ophthalmic Research	n	y
	27	Glaucoma	y	n
49	25	Refractive and Corneal Surgery	y	n
50	24	Core Journals in Ophthalmology	n	n
51	23	Strabismus	y	n
52	22	Transactions of the American Ophthalmological Society	y	y
53	20	American Orthoptic Journal	y	n
	20	Focal Points	n	n
55	19	Ophthalmic Optician	y	n
56	18	Ophthalmic Pediatrics and Genetics	y	y
	18	International Ophthalmology: A Clinical and Experimental Journal	y	y
57	17	Lasers and Light in Ophthalmology	y	n
58	15	Ophthalmic Surgery	y	y
	15	Progress in Retinal Research	n	n
59	14	Global Contacto	n	n
60	13	Key Ophthalmology	n	n
61	11	Ophthalmic Challenges in Geriatric Medicine	n	n
62	7	Modern Ocular Pharmacology	y	n
63	6	Ophthalmic Practice	y	n

* Review of Optometry referees selected articles.

Table 2 : Journals marked as read or always read: Total Group

Rank	#read/%	Publication
1	191/ 72	Journal of the American Optometric Association
2	171/ 65	AOA news
3*	138/ 52	Review of Optometry
4*	110/ 42	Journal of Optometric Education, JOE
5-	107/ 40	Optometry and Vision Science : American Academy of Optometry Journal
5*	107/ 40	Archives of Ophthalmology
5	107/ 40	Optometric Management
6*	94/ 35	Contact Lens Spectrum
7*	91/ 34	American Journal of Ophthalmology
8-	86/ 32	Optometric Economics
9*	85/ 32	Investigative Ophthalmology and Visual Science, ARVO
10*	84/ 32	Ophthalmology- Journal of the American Academy of Ophthalmology
11*	74/ 30	Clinical Eye and Vision Care
12*	71/ 27	Survey of Ophthalmology
13*	61/ 23	International Contact Lens Clinic ICLC
14*	60/ 23	Contact Lens Update
14*	60/ 23	CLAO Journal
15*	55/ 21	Optometry: Current Literature in Perspective
15*	55/ 21	Problems in Optometry
16-	51/ 19	Computers in Eye Care
17*	50/ 19	Ophthalmic and Physiological Optics
18*	49/ 18	Annals of Ophthalmology
19*	42/ 16	Optometry Clinics
20*	41/ 15	Journal of Behavioral Optometry
21*	40/ 15	Vision Research
22*	38/ 14	Journal of Optometric Vision Development
22*	38/ 14	Optometry Today
23*	34/ 13	Journal of Pediatric Ophthalmology and Strabismus
24-	32/ 12	EyeQuest Journal
25*	30/ 11	Cornea
25*	30/ 11	Eye Care Digest
26*	26/ 10	Retina
27*	25/ 9	Journal of Clinical Neuro-ophthalmology
27*	25/ 9	Ophthalmologica
28*	24/ 9	Neuro-Ophthalmology
29*	23/ 9	International Ophthalmology Clinics
30-	22/ 8	20/20
31*	21/ 8	High Performance Optometry
32*	20/ 8	Journal of the Optical Society of America
32*	20/ 8	Glaucoma
33*	19/ 7	Vision Monday
33*	19/ 7	Visual Neuroscience
34*	18/ 7	Current Opinion in Ophthalmology
34*	18/ 7	Documenta Ophthalmologica
34*	18/ 7	Journal of Glaucoma
34*	18/ 7	Ophthalmology Clinics of North America
35*	17/ 6	Binocular Vision and Eye Muscle Surgery
35*	17/ 6	Journal of Vision Rehabilitation
36-	16/ 6	Eyecare Business
37-	15/ 6	Eyecare Technology
37*	15/ 6	Graefe's Archive for Clinical and Experimental Ophthalmology
37*	15/ 6	Journal of Visual Impairment and Blindness
37-	15/ 6	Ophthalmology Times
38*	14/ 5	American Orthoptic Journal
38*	14/ 5	Seminars in Ophthalmology
39*	13/ 5	Optician
40*	12/ 5	Eye Care Management Update
40*	12/ 5	Professional Enhancement Strategies
40*	12/ 5	Refractive and Corneal Surgery
40*	12/ 5	Strabismus
41-	11/ 4	Journal of Ocular Pharmacology
41*	11/ 4	Transactions of the American Ophthalmological Society
42*	10/ 4	Focal Points
42-	10/ 4	Journal of Cataract and Refractive Surgery
42*	10/ 4	Ophthalmic Optician
43*	9/ 3	Progress in Retinal Research
44*	8/ 3	Core Journals in Ophthalmology
44*	8/ 3	Global Contacto
44*	8/ 3	International Ophthalmology: A Clinical and Experimental Journal
45*	7/ 3	Ophthalmic Research
46*	6/ 2	Ophthalmic Pediatrics and Genetics
46*	6/ 2	Ophthalmic Surgery
47*	5/ 2	Key Ophthalmology
48*	3/ 1	Lasers and Light in Ophthalmology
48*	3/ 1	Modern Ocular Pharmacology
48*	3/ 1	Ophthalmic Challenges in Geriatric Medicine
48*	3/ 1	Ophthalmic Practice

* indicates an increase in rank compared to table 1

- indicates a decrease in rank compared to table 1

- Read part of regularly: read specific articles but not entire journal
- Always read: read most of the journal, every issue

These choices were used to simplify the manner of reading categories as described by Jeffrey¹. He describes desultory reading as the equivalent of "skim/glance." Normalcy reading is equal to "Read part of regularly." In normalcy reading, time is given to assimilate and comprehend but not mentally debate the information. The "Always read" selection is similar to the category of interpretative reading in which the articles are critically read.

For analysis, the journals were identified as refereed or non-refereed. A refereed journal is one that uses specialists to review manuscripts prior to publication. It can be difficult to identify a refereed journal by merely looking at the publication. Journal inclusion in MEDLINE, the National Library of Medicine's database, was also determined.

Results

The number of completed surveys returned was 263 (45%). The responses were analyzed in various ways. The first is a frequency ranking of journals marked as being skimmed, read or always read (Table 1). This ranking provides general information about frequency of journal use by the entire responding population. Table 2 ranks the total group responses marked as read or always read. This normalcy ranking indicates journals that have a higher level of reading selectivity.

Discussion

The two journals most frequently read by optometric educators are the *Journal of the American Optometric Association* and the *AOA News*. Several reasons for this come to mind. Optometric faculty are encouraged to be members of the American Optometric Association. Both items are provided to each member as part of the membership benefits of the American Optometric Association. Receiving a personal copy may increase the possibility of being read. Four of the top ten journals are received as part of membership in an organization: *Journal of the American Optometric Association*, *AOA News*, *Optometry and Vision Science*, and

Optometric Economics. Four other titles are distributed to educators by the publishers: *Review of Optometry*, *Optometric Education*, *Optometric Management* and *Contact Lens Spectrum*.

Of the top ten titles listed in Table 1 which were skimmed or read, four are indexed in the National Library of Medicine's MEDLINE database. Two are optometric journals, *Journal of the American Optometric Association* and *Optometry and Vision Science*, and two are ophthalmologic journals, the *Archives of Ophthalmology* and the *American Journal of Ophthalmology*. The importance of inclusion in MEDLINE

■

*It appears that
the ease of
journal accessibility
increases
its readership.*

and refereed status changes when looked at from the perspective of more critical reading. Fifty-eight percent (58%) of the journals in the top ten rank as read or always read (Table 2) and meet the refereed criterion, and half (50%) are included in MEDLINE.

More than half (136/265) of the respondents indicated at least desultory reading of ten journals indicated in Table 1. That number is reduced when the level of reading depth increases. Three journals had over 50% (138/265) readership at the read or always read level as found in Table 2.

Conclusions

Optometric faculty have varied reading habits. Half of the optometric educators who responded did desultory reading of eleven journals and more indepth reading of three publications. It appears that the ease of

journal accessibility increases its readership.

The professional publication world is a changing one. From the germination of the idea for the survey to the publication of the results, some journals have changed names. These changes are noted below

1. Journal of Optometric Education is now called Optometric Education.
2. Progress in Retinal Research is now called Progress in Retinal and Eye Research.
3. Global Contacto is now called Contacto.
4. Computers in Eye Care is now called Eyecare Technology.

The information found in this study can help optometric faculty decide where to send their manuscripts in order to reach their target audience. Librarians may use this information to justify journal subscriptions.

Footnote

This paper was presented in an expanded form as a poster at the 1994 American Academy of Optometry Meeting. Areas of specialization were identified and the rankings of the journals read by educators in their area of expertise were listed. The listings did not extend beyond the ten most read journals for each speciality. This information showed which journals were most often read by others with the same area of interest. For further details, contact the authors at

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3241 South Michigan Avenue
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IN REVIEW

Contact Lens Problem Solving,

Edward S. Bennett, St. Louis, Mosby, 1995, 199 pages, 40 illustrations and 32 color plates, \$29.95.

Contact Lens Problem Solving is one in a series of Mosby's optometric problem solving texts. It was the editors' intention to create a clinical guide for practitioners and students to serve as a reference source in every day contact lens practice.

This well written and easy-to-read text is organized completely in case presentation format. Each case presents information that is relevant and typical for the aggressive contact lens practitioner. Cases presented are not rare and obscure but address routine as well as challenging issues of concern to all progressive contact lens clinicians.

Case formats, although unique to each contributor, are clear and concise, presenting information relevant to the issues without extraneous detail. The reader will particularly enjoy the highlighted clinical pearls found within each case. In addition, for each case presented, alternative management plans are discussed, encouraging thought-provoking analysis.

The cases presented address topics such as rigid and hydrogel contact lens design, fitting and problem solving, rigid and hydrogel lens care and compliance, disposable lenses, astigmatism, presbyopia, management of post-surgical corneas and contact lens induced complications.

The list of contributors is impressive including many well known and respected optometric contact lens educators and practitioners. Particularly useful is Dr. Thomas Quinn's chapter on astigmatism. Dr. Quinn's easy-to-understand and common sense approach to bitoric lenses is among the best that has been published.

This book is a "must read" for optometric students. The organization and style in which it is written make it a useful reference guide.

Reviewer: Dr. Howard B. Purcell
Director of Professional Affairs
Vistakon, Inc.

The Ophthalmic Assistant,

Harold A. Stein, Bernard J. Slatt, and Raymond M. Stein, Mosby, St. Louis, 1994, 939 pages including index, appendices and color plates, softcover, \$58.95

The Ophthalmic Assistant is presented in its sixth edition and offers topics for study for the optometric or ophthalmic assistant. The authors have done little to update the text, however, from previous editions. The extensive table of contents indicates that the text tries to cover everything which might be encountered in a practice setting but the depth of knowledge within the chapters is limited and provides very basic information. New chapters on the newborn/infant exam and refractive surgery give the reader a glimpse of specialized procedures while the new section on contact lens solutions is vague and uninformative for today's needs.

Several problems from past editions could have been corrected in the new edition, especially the use of pictures that look old and appear as far back as the 1971, 2nd edition. Tables throughout the chapters are confusing when there is little discussion related to them within the text. With the exception of lids and strabismus disorders, most of the figures and common eye disorders should be included in the color plate section rather than in black and white where it is difficult to discern the problems and pathologies.

It has been six years since the fifth edition, and too little has changed in many of the chapters to warrant the purchase of this edition unless the practitioner/assistant has a need for the newer chapters. With several good procedural reference texts available today, the *Ophthalmic Assistant* does not pro-

vide the depth necessary for in-office training. It does provide good general information that can be used to supplement hands-on training in patient care and clinical procedures. The text is easy to read and has limited potential usefulness for students, educators and practitioners.

Reviewer: Dr. Rachel A. Schumann
Ferris State University
College of Optometry

Primary Care of the Anterior Segment,

second edition, Louis J. Catania, Appleton and Lange, East Norwalk, Connecticut, 1995, 552 pages, \$110.00.

The goal of the second edition of *Primary Care of the Anterior Segment* is "to provide the essential information old and new, simple and complex, regarding primary care of the anterior segment for a clinician's understanding, enjoyment, and use in practice." How well was that goal achieved?

It is evident that Dr. Catania was not afraid of totally rethinking how to develop and present a second edition of this textbook. This edition has been reorganized into a far friendlier and more comprehensive treatment of the subject than Dr. Catania's first edition. There are eight chapters presented in the now familiar outline and "SOAP" formats, each with references and self-assessment questions at the end. The text is generously annotated with meaningful tables, figures, drawings, and color photographs. ICD-9-CM codes not only appear next to each problem within each chapter, but may also be handily accessed in appendices 1-3. Numerous other improvements are summarized by Dr. Catania in the introduction.

The first significant change occurs in chapter two, "Clinical considerations on anterior segment pathology and immunology." This chapter lays the foundation for the

remainder of the text and the clinical approach which Dr. Catania has used over the years as a systematic approach in the management of anterior segment problems. In this chapter Dr. Catania provides the reader with excellent detail on various aspects of immunopathological processes as they relate to disease of the anterior segment. Figures enable the reader to successfully navigate through the sometimes murky mechanisms of the immune system, the clinical immune matrix, and the inflammatory cascade.

The emphasis that Dr. Catania places on what is referred to as the "clinicoimmunopathological diagnostic categories" of primary care of the anterior segment serves as the basis for this text. Those categories are: 1)irritations and injuries, 2)noninflammatory conditions, and 3)inflammatory conditions. A brief review of the relevant clinical anatomy precedes each chapter. With those categories in mind, chapters 3-7 are dedicated to discrete anatomical sections of the anterior segment, e.g., the cornea is extensively covered in chapter 5. I found the color photographs which accompanied almost every outlined problem to be particularly helpful, especially when using the text in the clinical setting. All chapters contained numerous additional charts, figures, and other illustrations which enable the reader to rapidly compress and summarize various aspects of clinical care.

My overall reaction to this textbook is: "This is as good as it gets!" It is a friendly text that won't let you down, especially when the going gets tough. But since I want to leave room for Dr. Catania's third edition, maybe I can just close by saying — this is arguably the best and most comprehensive text on the clinical management of anterior segment disease in the field of eye care. This text may in fact be one of the best examples of why optometry continues to be a leader in primary eye and vision care.

I recommend this book to the new and experienced eye care clinician, hospital emergency room and triage staff, family physician, and the student of optometry and ophthalmology alike. *But Lou, can't you do any better?*

Reviewer: Dr. Roger Wilson
New England College of
Optometry

Optometry Clinics - Co-management, Linda Casser, ed., Appleton & Lange, East Norwalk, Connecticut, 1994, 136 pages, \$65.00 hardbound.

With the expanded scope of optometry and the ever-aging population, co-management between the optometrist and ophthalmologist is essential to provide efficient, quality care for patients. The preface of the book states, "Another still-evolving force has been the national flirtation with universal health insurance managed care systems, and the need to control health care costs, which has caused eye care providers to cast aside old



patterns of management and to consider new, cooperative means of providing efficient treatment. The result has been a boon for co-management."

This volume on co-management is written for practitioners and students alike, providing an abundance of information in a condensed fashion. Each section is written by experts in their respective fields, based not only on standard medical protocol but also the role optometry plays in effective co-management. Each of the expert authors has extensive experience practicing in co-management or referral centers. The text, edited by Dr. Casser, maintains a homogeneous writing style throughout the text.

The text is divided into eight basic sections. The first is a personal viewpoint concerning the evolution and future of co-management from a director of a referral center. It describes various facets of the co-management arena, citing studies concerning the success of optometric co-management. The next five sections address the clinical co-management of cataracts, refractive

surgery, diabetes, hypertension and glaucoma patients. The section on cataracts reviews the care required postoperatively starting with the first 24 hours. It outlines the procedures involved as well as the early and late complications that may arise. The refractive surgery section familiarizes the practitioner on the patient selection, preoperative evaluation and counseling along with postoperative care of radial keratotomy and excimer laser photorefractive keratectomy. The sections on diabetes and hypertension review the systemic and ocular manifestations. Glaucoma is discussed from the management perspective from evaluating risk factors to surgical options. The seventh section involves the legal and clinical considerations with co-management. It explains the protocol for both the optometrist and ophthalmologist and includes sample forms for cataract, glaucoma and radial keratotomy patients. The final section is a Grand Rounds discussion consisting of three optometrists and three ophthalmologists debating how to make co-management successful. Topics include: how to be successful in a co-management center, future of co-management of eye care and the gatekeeper managed-care concept.

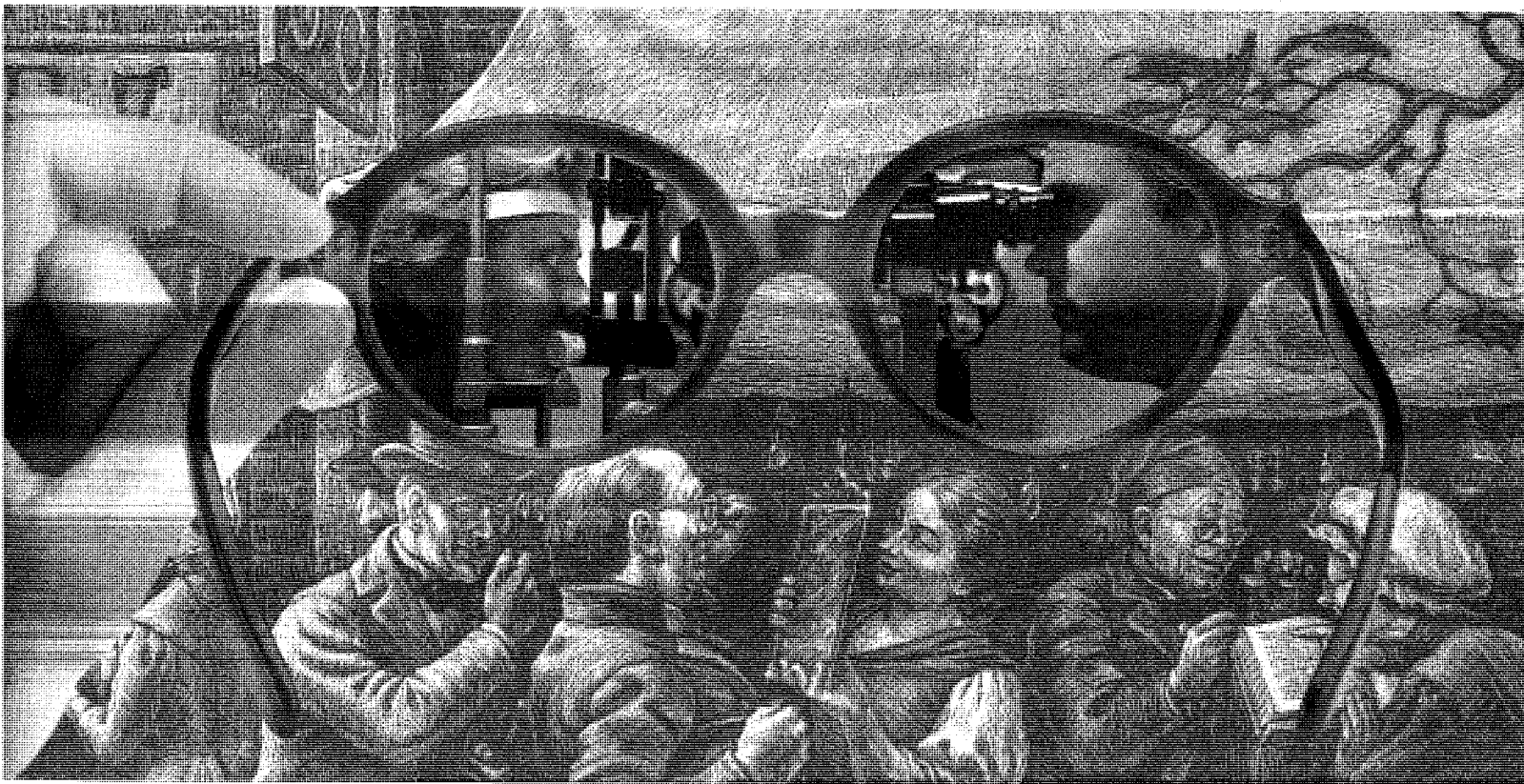
The information in each section is by no means meant to be an exhaustive source on each topic but rather a thorough review of the disease process and associated ocular sequelae, stressing what is important in a co-management setting. With the exception of the section on hypertension, the medical treatment and management of each condition is not included with the text. Each of the sections discusses not only the rationale for providing a high quality of care but the important issue of communication with other specialties.

This volume is an excellent resource for the student or practicing clinician wanting to start or enhance a co-management relationship. Many forms are included to help facilitate efficient communication.

Reviewer: Dr. Philip E. Walling
Ferris State University
College of Optometry

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