

# JOURNAL OF OPTOMETRIC EDUCATION

Volume 5, Number 4  
Spring 1980



CONTINUING  
COMPETENCY:  
THE NEWEST  
CHALLENGE IN  
HEALTH CARE

# ASSOCIATION of SCHOOLS and COLLEGES of OPTOMETRY

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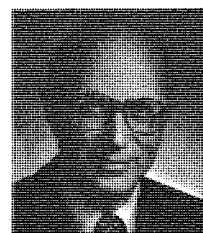
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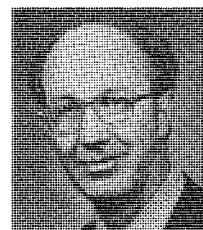
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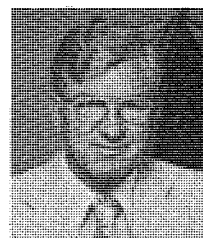
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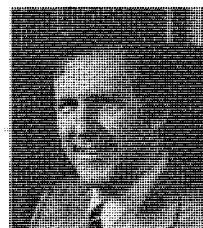
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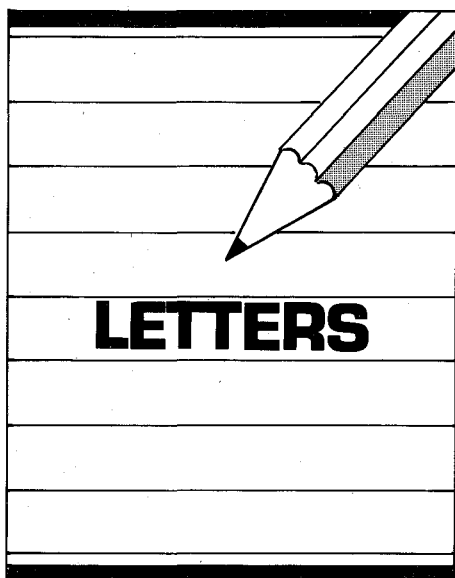
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Cover design by Jon Miller; Composition by Bobbie Peters Graphics, Inc.

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## LETTERS

### Dear Editor:

Thank you very much for the complimentary copies of the 1979 issues of the *Journal of Optometric Education*. We are delighted to have received them.

We intend to include the *Journal* in *Current Index to Journals in Education*. In fact, we have been trying to locate just such journals as your own from other professional disciplines. We feel that this literature is an integral part of the literature of higher education.

We appreciate your interest in ERIC and the Clearinghouse on Higher Education in particular. Please don't hesitate to call if we can be of assistance to you in the future.

**Lynn Barnett Haupt**  
**Assistant Director**  
**Educational Resources**  
**Information Center**  
**Washington, D.C.**

### Dear Editor:

Thank you for your letter of November 10, 1979, informing me of my complimentary one-year subscription to the *Journal of Optometric Education*.

Your excellent publication is shared

by our Senior Staff. We find it informative and helpful and thank you for your interest.

**Clifford Allen**  
**Director, Division of Manpower**  
**Training Support**  
**Bureau of Health Manpower**  
**Washington, D.C.**

### Dear Editor:

Thank you very much for providing me with a complimentary subscription to the *Journal of Optometric Education*.

Optometric education is not an area with which I am familiar. I am sure that I will find the *Journal* very informative and that it will familiarize me with this field.

Again, thank you for this new subscription.

**Shirley M. Hufstедler**  
**Secretary of Education**  
**Washington, D.C.**

## ANNOUNCEMENTS

### Doctoral Dissertation Research Proposals

Doctoral students whose dissertations address critical issues and problems in health services delivery are invited to apply for research grants from the National Center for Health Services Research (NCHSR).

Applications will be accepted until October 15 from doctoral candidates undertaking studies on the organization, delivery, and financing of health services. Applicants must have completed all but the dissertation requirement and currently must be enrolled in a doctoral program in the social, medical, management, or health sciences. Each NCHSR grant for dissertation research is limited to \$20,000 in total direct costs. Funding decisions will be made by February, 1981.

Application procedures are described in "NCHSR Program Solicitation: Grants for Dissertation Research Sup-

port," (PHS) 79-3262. Copies of the brochure and grant application materials are available from the Grants Review Branch (Dissertation), NCHSR, Room 7-50A Center Building, 3700 East-West Highway, Hyattsville, MD 20782 (tel.: 303/436-6198).

### Fifth Symposium on Ocular and Visual Development

Sponsored by Temple University and the Pennsylvania College of Optometry, the Fifth Symposium on Ocular and Visual Development will be held at the Holiday Inn, 18th & Market Sts., Philadelphia, PA, on June 9 and 10, 1980.

The topic of the symposium will be: "Regulation of Ocular Size and Shape During Development." The program will include sessions on control of cell numbers (speakers J. Zwaan, J. Silver, P. Johns); cellular shape changes (speakers R. Hilfer, D. Beebe, B. Burn-

side); and changes in plasma membrane composition (speakers J. Sheffield, R. Marchase, D. Trisler, H. Maisel). The program also will include a contributed paper session (probably as posters) and an evening talk on a clinical topic.

For additional information and registration forms, write SOVD, Dept. of Biology, Temple University, Philadelphia, PA 19122 or phone (215) 787-8851.

### Kentucky Board Examination

Board examinations for licensure in Kentucky will be given July 12, 13, and 14, 1980, in Elizabethtown and Fort Knox, Kentucky.

Inquiries about filing should be directed to the Board of Optometric Examiners, 1706 Sutherland Drive, Louisville, Kentucky 40205. For telephoning (502/588-4695), please note office hours are until noon daily.



## The Federal Role in Health Professions Education

**T**his year spells the beginning of what is expected to be a long and arduous road toward new federal health manpower legislation as the existing legislation expires on September 30, 1980. In addition to the variety of political philosophies that exist regarding the federal role, intrusion on academic freedom, balanced budgets, the economic circumstances and inflation, the fact of 1980 being an election year looms as a major obstacle. Not only are there 35 senators and innumerable representatives whose terms expire but one key senator is in the presidential race. Coupled with that will be congressional recesses for the party conventions and an early closing date for the Ninety-sixth Congress for the election campaigns.

The existing legislation in the health manpower area has emphasized the training of larger numbers of health professionals, particularly by providing construction monies, start-up assistance and capitation incentives for increasing class size. The federal legislation has stressed access to all population groups through loan availability and particularly support for minorities, women and other underrepresented groups. Some emphasis has been directed toward multidisciplinary training and service delivery but few of these programs have included optometry and vision care.

The general thrust of the present administration is to withdraw from many of these programs. It is their view that past programs have resulted in the ability of the system to produce adequate numbers of professionals if not an excess. Secondly, the support for educational costs are to be borne totally by the student since they are convinced that high incomes provide the opportunity to repay \$50,000-\$75,000 indebtedness. The thrust of the administration is to provide for federal obligation to serve unmet needs in return for any federal student support.

Perhaps it is obvious from the tone of the preceding summary of the administration's position that I am in disagreement with their approach. First, current data indicates that we are not, and will not, produce adequate numbers of optometrists by 1990 to replace those leaving the work force and meet the needs of already underserved population groups. This does not necessarily reflect the need for increasing class size of present schools but envisions new schools to effectively deal with the geographic disparity that exists with only thirteen schools of optometry presently. Secondly, incomes for optometric practitioners have increased significantly in the last ten years. They are not, however, competitive with those of the medical practitioners such that optometrists will be able to repay extreme levels of indebtedness. Moreover, I would expect that indebtedness will adversely affect the good geographic distribution optometry has attained when new graduates find it necessary to locate in settings with the highest income potential.

In December, 1979, the Association of Schools and Colleges of Optometry completed, under Dr. Henry Peters' direction, a position paper on the federal health manpower role. This paper highlights eight areas of concern to optometry and will guide the

association's approach to the Congress during the evolution of new legislation. The major points discussed include:

1. Need for support for minority access to optometric education and low interest loans for students.
2. Support for additional institutions for optometric education.
3. Incentives to support clinical education to serve underserved populations and manpower distribution to meet regional needs.
4. Need for support for institutional research and curriculum and faculty development programs.
5. Support for the development of effective programs to address quality of care, competency assurance and cost effectiveness.

To date bills for health manpower legislation have been introduced into both the Senate and the House of Representatives. These presently represent the perspective of the Congress. Senators Kennedy and Schweiker both have submitted legislative proposals which, while different, are comprehensive and recognize the continued need for federal support and, at the same time, provide for more meaningful requirements and incentives to meet health manpower shortage area needs. Student loan requirements and federally supported initiatives to insure educational innovation and progress in dealing with new knowledge, changing roles and integrated service with other professions also are highlighted.

Likewise, in the House of Representatives, Mr. Waxman has addressed in his proposed legislation, a number of the policy issues optometric education has identified.

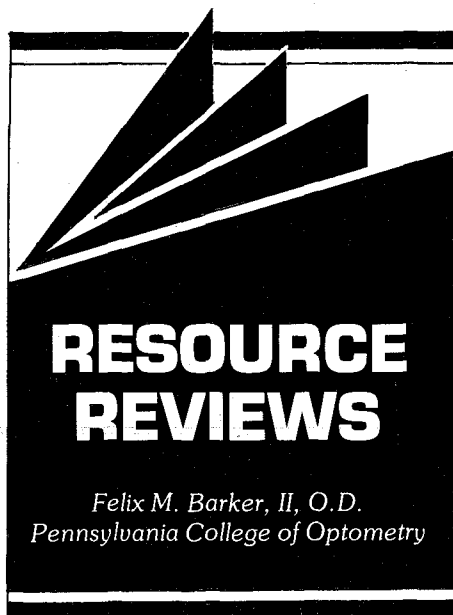
Much of what we can now support in congressionally initiated legislation has been the result of the opportunity provided by the committee staff to participate in the legislation's development. Through meetings, comment on drafts and independent input, ASCO has had the opportunity to provide professional advice to the Congress. Through testimony of ASCO leadership in hearings on the bills, amendments have also been suggested to better meet optometric and national priorities. The proposals are far from perfect but do represent a base which is workable.

The future is only somewhat uncertain. There are a number of factors which lead to the conclusion that no new legislation will be forthcoming from the Ninety-sixth Congress even though hearings have been held. I also believe that if a bill were to be passed, the present concern of the administration with economy and "belt tightening" would be reason enough for a presidential veto. We can, I think, anticipate that the present efforts will die with this Congress and a fresh start made in January 1981, when the Ninety-seventh Congress convenes. The existing legislation will, I expect, be continued by a simple one-year extension and will be funded to an absolute minimum.

ASCO will continue developing legislative programs to the benefit of education and the vision needs of the public. In doing so we will be better prepared to advise and consult on what I expect will be the Health Professions Education Assistance Act of 1981.

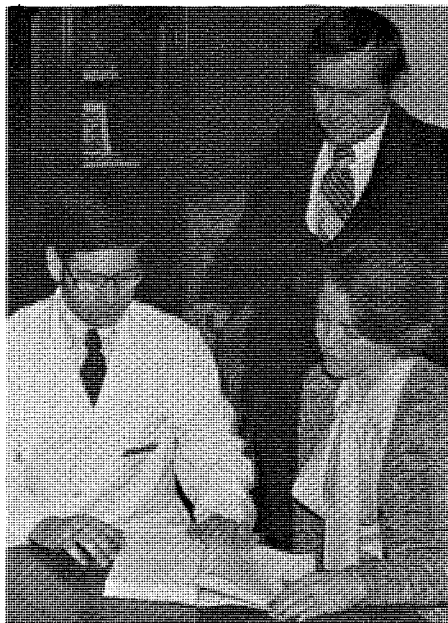


Lee W. Smith, M.P.H.  
ASCO Executive Director



**Public Health and Community Optometry**, edited by Robert D. Newcomb, O.D., M.P.H. and Jerry L. Jolley, O.D., M.P.H., Charles C. Thomas, Publisher, Springfield, Illinois, 1980, 513 pp. illus. (\$24.95).

Public health has been an identifiable specialization within optometry for about fifteen years. Up to now, however, textbooks and literature in the area have been limited. About three



Dr. Robert D. Newcomb (left), UAB School of Optometry associate professor, is co-editor of the recently published textbook, *Public Health and Community Optometry*. Accepting his book for the Lister Hill Library of the Health Sciences are UAB Vision Science Librarian Deborah Bliss and Library Director Richard Fredericksen.

years ago in Houston, Texas, at the national Public Health Information Forum, a group of thirty-four optometric educators with expertise in various areas of public health decided to pool their knowledge and publish a text. The result is the book entitled, *Public Health and Community Optometry*, which is a compendium of topical chapters, each a synopsis of some area within the realm of public health.

The opening section, written by Alden N. Haffner, O.D., Ph.D., and Henry B. Peters, O.D., introduces us to public health optometry and its historical development. Following this is a general discussion of population statistics, epidemiology and research methodologies in public health. A major portion of the text is devoted to discussions about optometry as it relates to the health care system in the United States. Health planning, quality assurance, health manpower, interdisciplinary practice, health education, financing, third party payment and governmental roles are covered in this comprehensive section.

The final two sections address the profession of optometry, its education, licensure and scope of delivery of eye and vision services. Included in this discussion is the role of screening, primary care, pediatrics and rehabilitative optometry.

*Public Health and Community Optometry* is an excellent publication. Practitioners and educators alike will benefit from reading this thoughtful and well-organized volume. More importantly, optometric educators now have a textbook to use in the teaching of public health optometry.

**The Handbook of Health Education**, edited by Peter M. Lazes, Ph.D., Aspen Systems Corp, Germantown, MD, 1979, 430 pp, (\$25.00).

The "health education" referred to in the title of this text refers to teaching patients, not students. The health education of patients under treatment and in health maintenance programs involves an expanding field of professional services and professional personnel.

*The Handbook of Health Education* provides the reader with in-depth discussions concerning a wide range of

health education strategies. These strategies include integration of health education methods into patient care activities, community health education, HMO activities and industrial applications. There is a discussion of the media and tools used in health education, as well as mechanisms for "self care" training and education.

This text would serve the public health optometric educator as a reference in further developing the concepts of health education in his/her course offerings. The clinical educator would also be aided in the integration of health education into his/her clinical education and patient care activities.

**Measuring Medical Education: The Tests and the Experience of the National Board of Medical Examiners**, second ed. by John P. Hubbard, M.D., Lea and Febiger, Philadelphia, PA, 1978, 187 pp. (\$12.00).

Objective evaluations of the knowledge base and clinical ability of health care students is the subject of *Measuring Education*. Based upon years of testing experience by the National Board of Medical Examiners, this informative text can serve as a resource for the health educator.

Historically, the need for board competency testing grew out of the inadequacy of the apprenticeship system of health care education which predominated the early years of our country's existence. The author proceeds from this point to explain the committee method of exam construction along with basic principles used in question writing, including written methods of clinical competency assessment. Subsequent chapters are devoted to scoring, analysis, validity and standard setting.

The second half of the book addresses the present role of the National Board, continuing and post-graduate education, research and development, as well as federal government activities in licensing.

This book would certainly be useful to members of the various optometric licensing agencies and would serve as a good library resource for optometric educators concerned with standardized testing techniques and test construction.

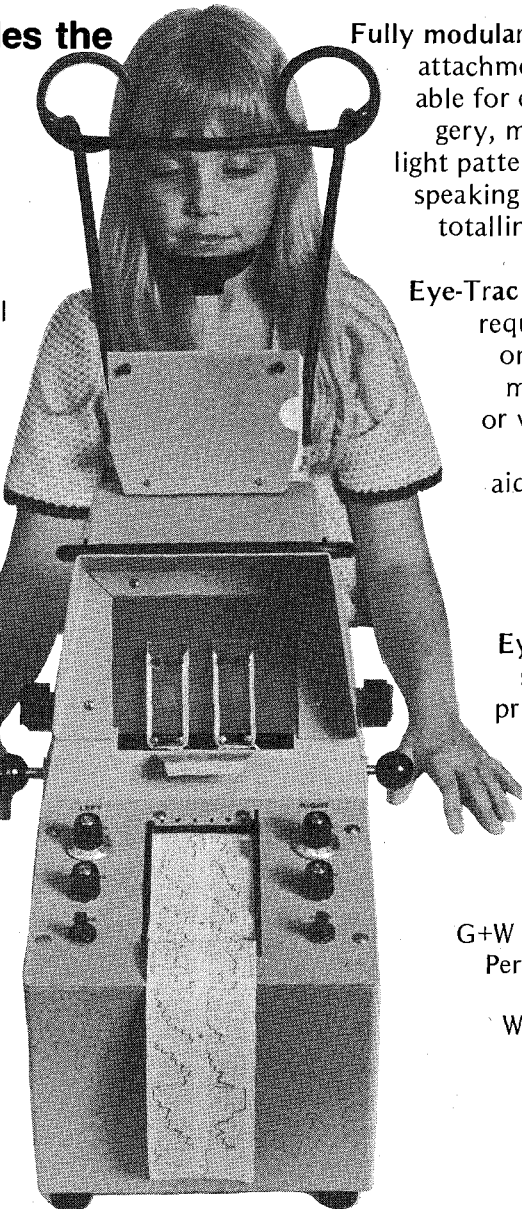
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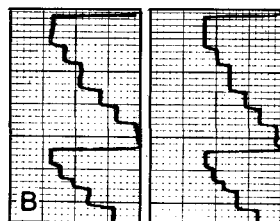
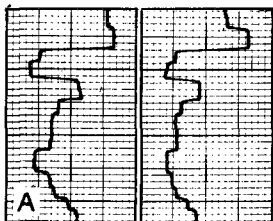


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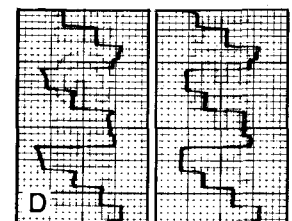
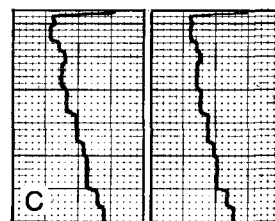
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Poor vs. good directional attack: Graph A shows random, inefficient approach to reading. Graph B shows orderly, efficient directional attack.



Inefficient vs. efficient reading: Graph C shows slow, laborious reading with many long fixations. Graph D shows direct, efficient reading that is 3 to 1 lines faster than Graph C.



**Applied Science  
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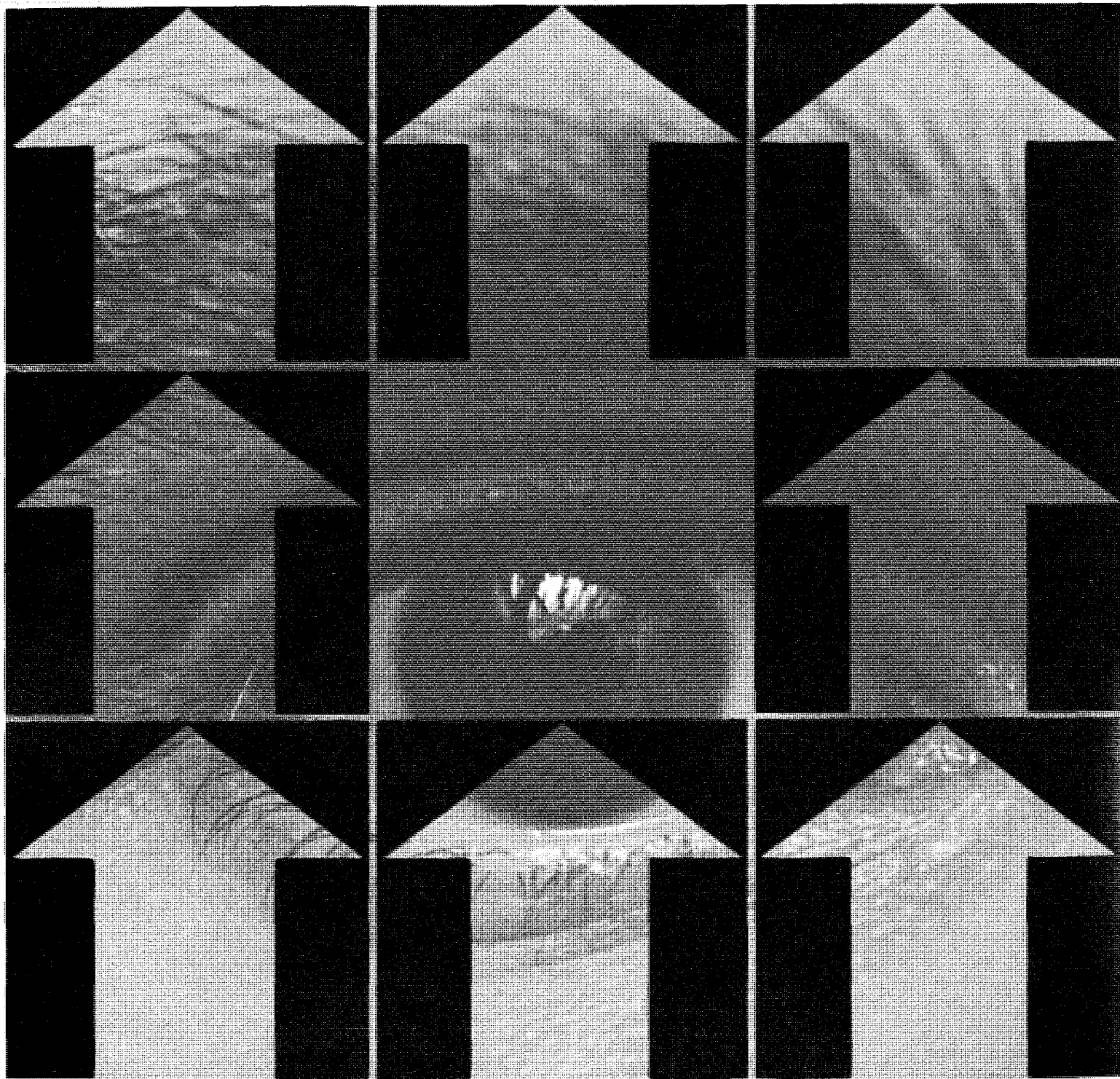
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# CONTINUING COMPETENCY: The Newest Challenge in Health Care

Edward M. Liddle, Ph.D. and Nancy Dixon, M.A.





It is increasingly common to pick up a recent professional journal in any field and be confronted with the terms "continuing competence," "competency assurance" or references to "practitioner accountability." To many professionals, beleaguered by officialdom's many demands upon their time and energies, the question becomes one of wondering if this is one more set of "buzz words" designed to impose a new layer of aggravation upon an already busy schedule. Or is it indeed an inevitable trend, with roots in consumer advocacy movements, which is making competency a matter of intense public interest and concern? That it is a trend of some national impact is unmistakable and one which is having far-reaching implications for health care delivery in this country. It is important, then, to take away some of the mystery surrounding this concept and examine continued competency as an issue which can serve both the public good and the self-proclaimed goals of the health professions.

The most crucial aspect of the competency issue is broached by Dr. Alden N. Haffner,<sup>1</sup> in his address to new graduates from the State College of Optometry at SUNY:

*Perhaps the most serious demand for accountability relates to competence in the skills of the discipline and in the maintenance of continuing competence in order to justify sustaining of the license.*

This then is the key reason for paying careful attention to the continuing competence issue. Regulatory agencies and licensing boards are revising their thinking from granting a lifetime *carte blanche* to practice to seeking some assurance that the public is receiving competent, safe care from responsible licensees. At the same time, the health professional, as part of the scientific community, is dedicated to the advancement of knowledge and skill to help maintain the health of the public. The

quality check that continued competency assurance provides is not at all incompatible with that professional goal.

Since optometry is a clinical health practice with a large technical component, the independent nature of optometric practice demands a high degree of skill and competence on the part of the practitioner.

*The explosion of technology and the deluge of knowledge that has occurred in general and optometric health care in recent years has had great impact on the scope and perspective of optometric education and the practice of optometry. These changes are serving to distinguish the recent graduates of schools and colleges of optometry from the graduates of a few years ago.*

These words, written in the introduction to "An Optometric Clinical Practicum Examination Model"<sup>2</sup> by Dr. Jess B. Eskridge in the Summer, 1979 issue of this journal, are in the context of entry-level assessment. But to those of us in the State of Michigan the words have a broader meaning. If such changes are serving to distinguish recent graduates from those of only a few years ago, what are the implications for assessing the continued competence of practitioners prior to relicensure?

In response to the growing interest in continued competency for all health care providers, the State of Michigan in its newly redesigned Public Health Code of 1978 includes a firm mandate to include periodic competency assurance for license renewal. This is not an academic exercise in Michigan, since Public Act 368 of 1978 mandates that, "Not later than 6 years after the effective date of this part, a board shall promulgate rules to establish a system of assessing, at intervals of not more than 4 years, the continued competence of licensees as a condition of periodic license renewal." One of the boards affected by this requirement is the Michigan Board of Examiners in Optometry.

It is interesting to note that this terminology, "continued competence," is used and not that found in laws repealed by this new act—that of mandatory continuing education. While this does not preclude the use of continuing education as a requirement for relicensure, it does change the form from the gathering of approved credits to

demonstrating that the practitioner has maintained minimally acceptable practice skills. How this will be done represents an impressive challenge to all professions concerned to adequately define what is meant by "competence" and to develop assessment mechanisms which will be appropriate to this non-academic context.

Dr. Jack W. Bennett,<sup>3</sup> Dean of the College of Optometry at Ferris State College in Big Rapids, Michigan, adds his support to the idea that the main function of state licensing boards should be in guaranteeing the continuing competence of practitioners. He stresses, however, that competency mechanisms should be designed in a practice-oriented setting and must relate to the day-to-day care of patients:

*The average practitioner is frightened to death at the thought of undergoing a major examination like the State Board entry-level exam again. Someone in practice 15 or 20 years, away from the academic environment, is very reluctant to submit to that ordeal again. In addition, much of the basic academic knowledge gained in training may not even apply to present practice. The ability to provide good quality patient care—that's the bottom line.*

Up to now the usual way for health regulatory boards to provide some means to assure professional competence has been to require continuing education credits for the renewal of licenses. There has been growing disenchantment with this approach, however, across the country. When continuing education is voluntary, it is a valid route to professional development. When amassing CE units is the goal, relevance to practice often becomes secondary. Useful courses are not always available to all practitioners in areas away from continuing education centers. In addition, continuing education does not always provide valid assurance of either learning or application to practice.

For these reasons, more professional groups and regulatory boards are looking to continuing education as a part of competence, but are actively seeking more reliable assurances of real practice competency.

Other health professionals who are developing competency assurance pro-

Edward M. Liddle, Ph.D., is licensing executive responsible for health occupation regulation in the Bureau of Health Services, Michigan Department of Licensing and Regulation. Nancy Dixon, M.A., is research coordinator for the Health Occupations Council, an advisory body on health care credentialing for the Michigan Department of Licensing and Regulation.

grams include the American Society for Medical Technology, the Michigan and American Nursing Associations, the American Academy of Physician Assistants and the American College of Nursing Home Administrators. The emphasis in all the programs is upon a definition of the knowledge skills and abilities required for competent practice, and a system for self-assessment to help the individual practitioner to evaluate personal strengths and weaknesses. Such programs, if backed with continuing education opportunities geared to strengthening skills, offer real promise for assuring ongoing competence in one's field. Even better, participation in such activities, designed to meet the minimum requirements for certifying agencies and state regulatory bodies, can lead to continuing professional growth as a serendipitous side-effect.

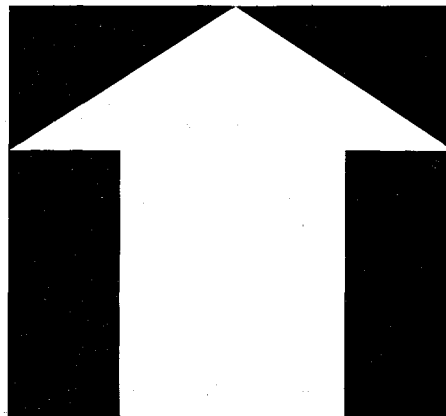
Continuing education seen in this context as a carefully integrated component of the process of maintaining competence becomes less a gathering of required units but more a valid method of upgrading practice skills and bringing the latest developments in the field into the patient care practice arena.

The American Pharmaceutical Association and the American Association of Colleges of Pharmacy, after six years of work, have developed a set of Standards of Practice for Pharmacy which is a model for practical service-related pharmaceutical care. The Michigan Chapter of the association is adopting this model as a pilot project for the state and has plans for setting it in motion this year. The establishment of standards of professional activity which can be used as a detailed checklist and self assessment for the practitioner is seen as the first and basic phase of the national association's continuing project.

The Michigan Veterinary Medical Association is experimenting with a Practice Audit as a means of competency assurance, and has found it to be a very useful tool, particularly since the practice of veterinary medicine is such a diversified field. In many ways, it is similar to the practice of optometry in that the practice is usually solo, not part of a complex hospital situation. In both kinds of practice, few institutional restrictions are in force, and the independent skill and integrity of the practitioner are vital.

Peer review, or participation in PSRO activities are other mechanisms for competency assurance which are being tested in a number of health fields. The key approach seems to be finding a method which suits the day-to-day practice of the profession and can be beneficial to the individual practitioners as well, while satisfying the regulatory requirements of the states.

The International Association of Boards of Examiners in Optometry and the National Board of Examiners in Optometry are currently looking at the need for competency assurance. Since optometric practice demands both knowledge and clinical skills, inclusion of clinical simulation has been suggested



*The most important consideration for the optometric practitioner is to be aware that competency assurance is becoming more a part of the credentialing process.*

as an important element of any competency measurement. Competency in optometry includes diagnostic skills, correct and efficient management, and accurate record-keeping. All too often the entry-level exam for health careers emphasizes academic knowledge requirements for a given field. More important for the experienced practitioner is finding out how that knowledge translates into clinical skills, decision-making and actual patient care. The care received by the patient, after all, is the final test of competency.

One other aspect of the competency issue which Michigan's new Health

Code addresses is English language proficiency. While originally thought of as an issue in the credentialing of foreign-trained health practitioners, language proficiency can have much broader implications for health care. Effective patient care involves good communication between practitioner and patient. Are the patient's symptoms understood by the practitioner? Are the practitioner's instructions clearly understood by the patient? Are patient histories complete? Can the practitioner get the necessary information from the patient? Are orders and clinical instructions clear and exact for colleagues and auxiliary personnel? Are patient records clear, accurate and complete? Can the practitioner, through good communications skills, enlist the patient as a partner in his or her own health care? These are some of the skills to which competency-oriented licensure is drawing attention, and which can only result in benefits for all parties concerned, both public and professional.

The most important consideration for the concerned optometric practitioner is to be aware that competency assurance is becoming more and more a part of the credentialing process; not any longer is it measured only at entry into practice.

Movements are afield everywhere in highly trained professional quarters to deal with competency—law, medicine, nursing, airline pilots—in all areas where the welfare of the public is at stake. The health fields in particular hold special place in the public trust. Continuing competency is part of that trust.

A commitment to excellence in vision care which has been part of competent optometric practice has helped foster the many advances in the field. A similar acceptance of the need for continuing competency assurance should pose no threat to the profession, because it is, after all, merely an outgrowth of that commitment.

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# NEWSAMPLER

## Graduate and Professional Opportunities Grants

The Indiana University School of Optometry is the first optometry school to receive an award under the Graduate and Professional Opportunities Program administered by the Office of Education's Bureau of Higher and Continuing Education. The program is designed to assist minority and women students in graduate and professional study.

The School of Optometry, which participated in a combined proposal submitted by Indiana University involving five disciplines, received a total of \$23,400 to support three new fellowships and an additional \$29,048 for recruitment purposes in 1979-80. The school was the only one of the five disciplines to receive an award. Two more fellowships are expected to be received in 1980-81 for a total of five new and continuing fellowships, according to Dr. Edwin C. Marshall, director of admissions.

The Graduate and Professional Opportunities Program began in 1978-79 with 350 fellowships awarded. A total of \$6,722,100 was awarded to post-secondary institutions in 1979-80 to support 874 continuing and new fellowships. An additional \$1,114,286 was awarded to 50 of the institutions for recruiting, counseling, special orientation and other student services.

Minorities and women planning to teach at the postsecondary level and those planning careers in other professions of national importance are eligible to apply for the fellowships. Selections are made by the participating education institutions.

In 1979-80 each fellow received a stipend of \$3,900 for a 12-month period of study, and the institution received an allowance in the same amount to cover the cost of tuition and fees. Stipends for 1980-81 will be raised to \$4,500, with institutional allowances remaining the same.

Both stipends and allowances are prorated for courses lasting less than 12 months. If the course is of longer dura-

tion, the student is eligible for a continuing fellowship.

The Graduate and Professional Opportunities Program was authorized under Title IX, Parts A and B, of the amended Higher Education Act of 1965. Any institution of higher education may apply for up to 15 fellowships in not more than five academic areas. The institution must thoroughly document the need for more highly trained personnel and underrepresented students in that discipline.

The deadline for 1981-82 applications will occur sometime in October/November, 1980, and will be announced in the Federal Register. Applications may be obtained from the Office of Education, Bureau of Higher and Continuing Education, Division of Training and Facilities, Graduate Training Branch.

## ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ NEWENCO Adopts "Balanced Tuition"

The Board of Trustees of the New England College of Optometry (NEWENCO) has adopted a new tuition policy known as the "balanced tuition" policy. It will be implemented over a four-year period and applied in 1980-81 to entering students only.

Balanced tuition for students entering next fall has been set at \$8,970 for the year. This tuition rate has been determined on the basis of per student educational cost, projected at \$11,400 for 1980-81, less such income as clinic fees, contributions to the school's annual fund, contributed services, and other known sources of funds. Tuition for second through fourth-year students, governed by the traditional tuition policy, has not yet been announced.

Actual student charges, however, will be reduced by state capitation contracts. According to NEWENCO Interim President Dr. F. Dow Smith, at least one-third of the class entering under the new tuition policy will be eligible for substantial tuition reductions resulting from ex-

isting contractual agreements with seven states. Those contracts provide an average of \$4,400 per student in tuition support.

NEWENCO is the third of the five private schools of optometry in the nation to institute this type of tuition policy. Similar plans were introduced by the Southern College of Optometry in 1974 and by the Pennsylvania College of Optometry in 1977.

Dr. Smith cites declining federal funds as a principal reason behind the Trustees' decision to adopt the new tuition policy. The policy will also permit allocation of state contract monies directly to students who fill the places reserved by the state awarding the grant and allow the institution to make a start toward funding depreciation on plant and equipment.

## ★ ★ ★ ★ ★ ★ ★ ★ ★ ★ Clinical Optometry Management Program

Clinical optometry management is a new area of concentration to be offered in graduate education, beginning in the fall, at the Pacific University College of Optometry. It will be a new track within the master of science degree.

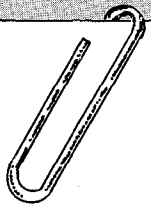
"This program is unique and is not offered by any other institution in the nation," reports Dr. Willard Bleything, optometry dean. Dean Bleything notes that the dual emphasis within the program is expertise in advanced concepts of optometric care delivery and in health services management.

This program will prepare participants to take chief of optometry positions at large military medical center hospitals and to be employed with agencies such as the Public Health Service and Indian Health Service.

Dean Bleything believes that the program will also be of interest to those pursuing careers in health maintenance organizations and in state, county, community, and optometry school based clinics. He notes, too, that the trend toward optometric group practice is continuing and suggests a future need for people with this clinical optometry management expertise.

As the program moves into full swing, Dean Bleything expects that there will be six to eight people enrolled each year.

The basic curricular elements in the program are clinical optometry, health services management and administration, and practicums in clinical optometry and health care management. Research and thesis will be required.



# An Innovative Approach to Professional-Level Optometry Courses

Jerry L. Christensen, O.D., Ph.D. and James McKittrick, Ed.D.

An innovative form of course presentation, known as the Michael's Group Remediation System, was utilized in teaching a course dealing with the optics of the eye. This system features instructor pacing, written study objectives and content materials, weekly quizzes and remediation. Although the course presented by the authors dealt with the optics of the eye, any course could be taught using this system. This mode of course presentation was judged by both the instructor and the students as being extremely successful.

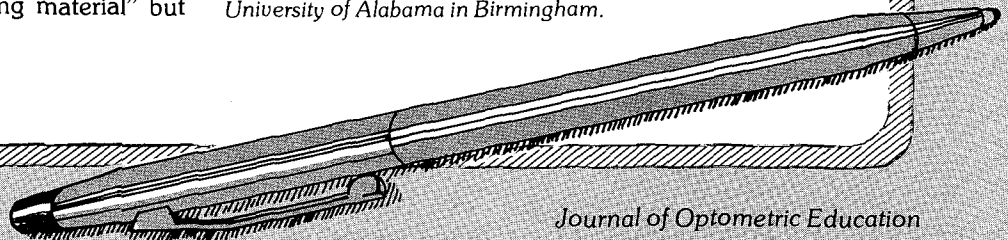
## Introduction

In the process of teaching the optics of the eye to optometry students for eight years, a comprehensive set of lecture notes was developed. Initially, these notes were intended solely for the lecturer's benefit. It was found that setting the lectures down on paper required thorough organization and editing, both of which were conducive to effective teaching. Once the lectures were committed to paper and typed, however, it seemed senseless to lecture on the material and require each student to assiduously copy down some percentage of what was being presented. Consequently, the lecture notes were duplicated and provided to each student prior to the lecture. This altered the nature of the lectures. It was no longer necessary to carefully present every definition and figure, in some cases repeating it several times to ensure that every student had written it down properly. Lecture time could be used not only for dispensing factual material but also for discussing problem areas and answering questions. Lectures were no longer spent "covering material" but

were used for teaching. These events led to consideration of the adoption of an educational method, other than the traditional lecture system, which would capitalize on the presentation of course material in written format.

The lecture method of teaching in higher education has been widely criticized. In many cases, the lecture is cited as being simply a repeat of printed material which appears in a textbook or other sources.<sup>1</sup> The lecturer dispenses information which the students must copy and memorize so as to write it down at test time. The lecture method endures, at least in part, because it is the most expedient and is the safest due to its almost universal acceptance.<sup>2</sup>

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In recent years, many alternatives to the traditional lecture format of college courses have been prompted. The most publicized and seemingly most popular is the Keller Plan or, as it is sometimes labeled, the Personalized System of Instruction (PSI).<sup>1-4</sup> A course taught in accordance with the Keller Plan divides the course material into a number of self-paced modules or units. The course material is usually printed matter such as textbooks, handouts, articles, etc. with a set of written objectives to guide the student's study. These units are student-paced in that the student studies the materials until he feels he has mastered them sufficiently to take a test on the material of that unit. The student then proceeds to a testing center staffed by a student proctor who administers the examination. The examination is graded immediately; and, if the student does not pass, he may receive tutorial help from the proctor, engage in further study and be tested again at a later time. A student must pass the first unit before being permitted to begin the second, and so on through all of the units. Generally, the student's grade is dependent upon the number of units successfully completed.

Such a system allows the students to learn at their own rates, better directs study by means of objectives, and provides immediate knowledge of test results and grade incentives for mastering each module. The use of the student proctor in a tutorial fashion also adds a beneficial, personalized approach not found in computer assisted or audio-tutorial forms of education.

The major difficulty in putting the Keller system into operation is the self-pacing, which necessitates the maintenance of testing centers and the availability of proctors. These difficulties would be especially acute in professional schools. Also, permitting students to master varying numbers of modules is not feasible in professional education where each student must master all of the material. In addition, the Keller System is prone to problems resulting from student procrastination.

These disadvantages led to the consideration of other systems to supplant the lecture form of instruction. The method selected for use was the Michael's System.<sup>5</sup> This system has been described as a group remediation system. The procedure is instructor paced, utilizes written objectives and written content materials, features weekly quizzes, furnishes unique study incentives and remediation and makes the course grade closely dependent upon the amount the student learns.

### Course Description

Each student received a five-page course description which included a detailed explanation of the course and the grading system. In addition, schedule alternatives were provided in the event of a student's absence or cancellation of a particular class during the quarter.

The content material was divided into eight units. Each unit consisted of a set of objectives and a content handout and references. These items were provided to the students one week before the discussion and testing sessions. The course was scheduled for four one-hour blocks of time on four consecutive days. The course schedule is shown in Figure 1.

The first meeting of the week was devoted to a combination of the discussion of problem areas and the answering of specific questions. These lecture and discussion sessions were well focused as the students had read the handout

material and so knew if they were unable to meet any of the objectives.

The second class meeting was devoted to Quiz A, the first quiz of the week. Students were given a quiz question sheet and were given a carbon set so as to enable them to make a copy of their answers. When they turned in their completed answer sheets, they were given an answer key. Quizzes were graded overnight and were returned to students the next day.

At the third class meeting of the week, Quiz A was returned and those students who passed the quiz—an 88%—was required for a passing grade—picked up the objectives and content for the next unit and left. Those students who did not pass the quiz could stay to attend a supplemental lecture/discussion.

On the next day, the fourth and last course meeting of the week, a second quiz, Quiz B, was given using the same procedures as Quiz A. When students turned in their answer sheets and picked up the answer key, they also received the

“

*The first meeting of the week was devoted to discussion of problem areas and answering of specific questions. These sessions were well focused as the students had read the handout material and knew if they were unable to meet any of the objectives.*

”

materials for the next unit. Quiz B was graded so that it could be returned at the next class meeting.

### Course Features

This form of course has many beneficial features.

#### 1. Instructor Paced

This type of course is instructor paced. Self-pacing, with the grade dependent upon the amount of the course completed is not well suited to professional education where mastery and competency are the goals. Even though the instructor controls the pace of this type of course, some student self-pacing is possible within the weekly units.

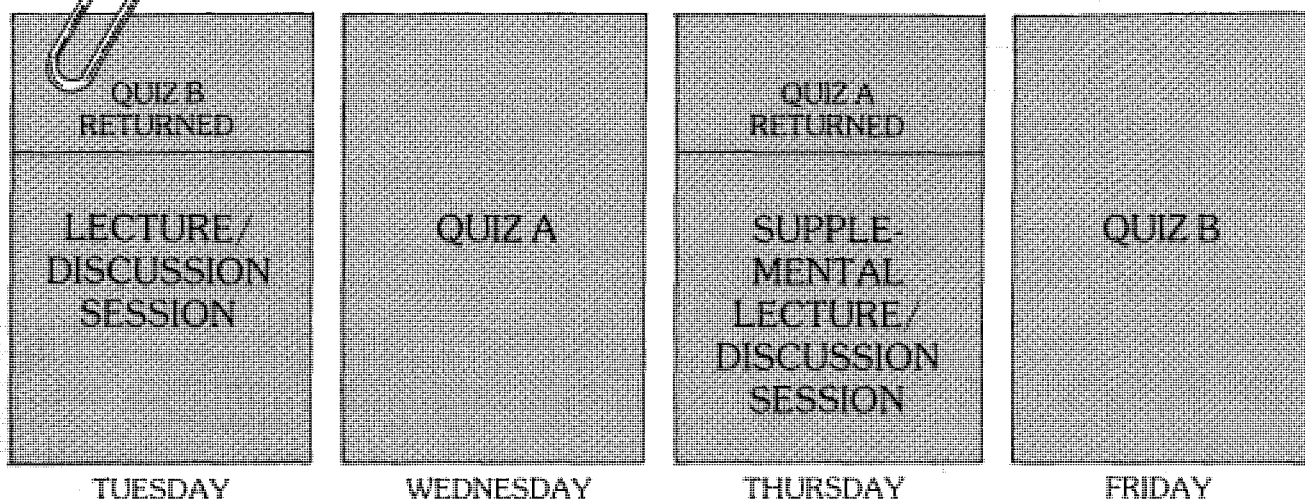
#### 2. Organization

A second advantage is that this system is highly organized which requires the instructor to put careful thought into what to teach and when to teach it. There is also an advantage to the students in knowing exactly what to expect from week to week.

#### 3. Written Study Objectives

The study objectives, prepared according to recommended practices<sup>6,7</sup> helped direct the students' study as well as enable them to determine when to stop studying. Student motivation seemed to increase when they were given clearly stated goals and were placed in a situation in which there was a strong relationship between the work demanded and the achievement of these goals.





**FIGURE 1.**

**Block diagram of the temporal sequence of the course elements. Each block represents a one-hour segment of time, scheduled on four consecutive days. The Quiz B returned on Tuesday is the one from the previous week.**

Having to develop objectives caused the goals of the course to be clearly set forth which resulted in a better selection of course material. Items were not allowed to remain in the course due to precedent alone.

#### **4. Written Content Material**

Writing out the course material caused it to be sharply edited and very well organized, both of which helped the students in learning the material. References were also included at the end of each unit. Having the content materials in written form also promoted change and improvement as the instructor had a firm starting point and knew exactly what the course consisted of from year to year.

#### **5. Discussion Sessions**

The time spent with the students in the lecture/discussion sessions was very productive. The students were well prepared to ask excellent questions. Having studied the content notes and applied the knowledge gained to mastering the objectives, they were very aware of the specific areas in which they lacked understanding. When questions were answered or points clarified, there seemed to be immediate meaningful impact. Enthusiastic nodding or statement of understanding was the usual response. If this was not the case, a sharper, more focused question usually followed. This level of interaction occurred in previous years' lecture courses only a day or so before a midterm, as it was only then that the students attempted to understand the material presented over the preceding three or four weeks.

Another beneficial feature of these lecture/discussion sessions was that deficiencies in the content notes became very obvious. Some of these errors or confusing sections had remained in the written materials for several years under the traditional lecture format. Evidently, the students did not discover them or they became aware of them so close to an examination that correction was not feasible or worthwhile. Deficiencies in the students' background preparation were also highlighted so that quite specific, constructive sugges-

tions regarding changes in prior course work or in the curriculum could be made.

From the instructor's standpoint these sessions were exhilarating in comparison to the usual lecture. Answering good, thoughtful questions or explaining away misunderstanding or misconceptions really created a feeling of teaching and not just lecturing. The instructor had the strong feeling that this was a much more worthwhile and effective use of class time.

#### **6. Weekly Quizzes**

The weekly quizzing meant that the students' study had to be distributed over the entire term; the practice of cramming before one or two large examinations was eliminated. Also, a student went into a given week having attempted to thoroughly master the material considered in the preceding weeks. Therefore, the chances of understanding the new material were enhanced. Also, with weekly quizzes the possibility of cumulative failure was reduced. When a test is given after three weeks or so of a course, a student can fail one third of the course before any feedback on performance is obtained. It is then possible to continue in the course with an inadequate understanding of earlier material.

The combination of quiz questions, a copy of the student's answers and the key, all of which a student possessed immediately following the test, provided rapid feedback on achievement. Students could begin immediately to work on difficulties they identified or relax with the knowledge that they had done well.

#### **7. Study Incentives**

Having the written objectives and content materials and knowing that mastering the objectives would lead to a pass on Quiz A produced a powerful incentive for study. The students reported that they felt they had in their possession a "key" for obtaining a high grade, and so could not stop themselves from studying until they had mastered the objectives.

Also, the Michael's System itself is structured in such a way as to provide built-in study incentives. For example, a



student who passed Quiz A attended only the first two class meetings of the week. The students liked this and worked hard to achieve it.

Another incentive stemmed from the way quiz points were converted into grade points. Students were encouraged to study hard for Quiz A and yet were not penalized on their course grade for slight misunderstandings which were overcome with additional study.

Every quiz consisted of six numbered questions of four points each, for a total of 24 quiz points. Some of the questions might have subparts, but the total number of points for each question never exceeded four.

In the case of Quiz A, losing 0-4 quiz points was designated a (P) pass and the maximum number of grade points, 10, was awarded the student. If 5 to 9 quiz points were lost, the letter grade designation was a (Q) questionable, which corresponded to 2 grade points. If 10 or more quiz points were lost the grade given was an (F) fail and no grade points were awarded. If a student earned a P and therefore 10 grade points, the student was finished with the course for that week.

For Quiz B, the relationship between quiz points and grade points differed from Quiz A. If 0-4 points were lost a letter grade of P (Pass) was assigned which carried only 8 grade points. Losing 5 to 6 quiz points resulted in a Q (Questionable) which had a grade point value of 6. Missing 7 to 8 quiz points earned the designation of M (Marginal) which carried 4 grade points. Finally, losing 9 or more points resulted in an F (Fail) which carried no grade points.

Thus, grade points were more difficult to obtain on Quiz B than on Quiz A; that is, for a given number of quiz points, fewer grade points were awarded for Quiz B than for Quiz A. In this manner, the grading system was used effectively

to influence the study behavior of the students. Consequently, the students worked harder for Quiz A than would be the case otherwise.

The grade points from the two quizzes were added together to obtain the student's grade points for a given unit. For example, a student who received a Q on Quiz A and a P on Quiz B achieved the maximum of 10 grade points for that unit. Grades of Q on both quizzes resulted in 8 grade points for that unit.

The final grade in the course was determined by adding the points obtained on the weekly quizzes—80 points were possible—to the points obtained on the cumulative final examination which was worth 20 points. The course letter grade was assigned as follows: A, 90-100; B, 80-89; C, 70-79 and F for 69 points or fewer.

The course grade was absolute; if a student achieved a particular number of grade points, the corresponding grade was awarded. The students knew where they stood, week by week, which resulted in effective use of the grade and as an incentive for study.

## 8. Remediation

The supplemental discussion session and the remedial quiz provided additional help to students having the most difficulty with the material. Usually, only a handful of students did not pass the first quiz so that the ensuing lecture/discussion had a seminar or tutorial flavor. This enabled the instructor, and the students themselves, to discover the reasons for their poor performance much more rapidly and with greater clarity compared to a conventional course.

Given the professional education aims toward enabling students to reach certain competency levels, this type of course is quite appropriate.

### QUIZ A

Quiz Points Lost	Letter Grade	Grade Points
0 to 4	P (Pass)	10
5 to 9	Q (Questionable)	2
10 or more	F (Fail)	0

### QUIZ B

Quiz Points Lost	Letter Grade	Grade Points
0 to 4	P (Pass)	8
5 to 6	Q (Questionable)	6
7 to 8	M (Marginal)	4
9 or more	F (Fail)	0

**FIGURE 2.**

Summary table of the grading system used for both Quiz A and B. Based on the actual quiz points lost the student was assigned a letter grade and a number of grade points. The grade points for Quiz A and B are added to determine the student's grade points for that unit. Ten points are the maximum for any given unit.

How well organized is this course in comparison to others you are taking?

More Organized 1 \*1.1 2 3 4 5 6 Less Organized

Were the frequent quizzes useful in helping you learn the material?

Useful 1 \*1.3 2 3 4 5 6 Not useful

How well do you like the format of this course?

Like 1 \*1.5 2 3 4 5 6 Dislike

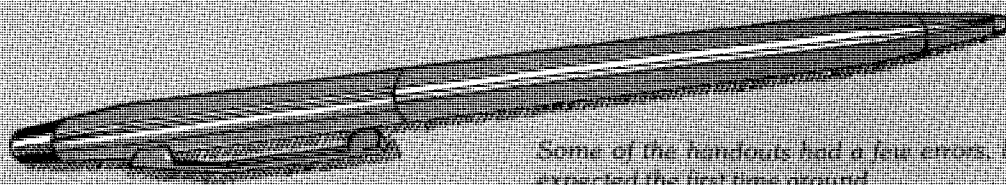
What is your overall evaluation of this course in comparison to other courses you have taken at UAB?

Better 1 \*1.4 2 3 4 5 6 Worse

**FIGURE 3.**

Four items taken from the Course Evaluation Form are shown. The scale position of the average response of 38 or 41 enrolled students is indicated by the asterisk with the actual numerical average shown above the asterisk.





## Course Evaluation

The students' reception of this course was quite favorable. A course evaluation form was employed at the end of the course. Figure 3 shows some of the items and the rating scale as they appeared on the forms provided the students.

The four items presented in Figure 3 were selected from the total of twenty on the course evaluation form because they were concerned with the course itself and not characteristic of the instructor or content. Thirty-eight of forty-one students responded to the items shown. The asterisk represents the position of the class average with the average value indicated above it. As shown, the students rated the course very highly on these items.

The course evaluation form also included open ended questions designed to elicit the students' opinions. The first question was, "What is the best feature of this course?" The following comments were among those elicited:

*I believe the style in which the course is designed and structured helped learning and retaining the information to a greater extent.*

*Frequent tests made sure that you were keeping up with the material taught. If one had difficulty with the information on Test A, Test B gave one a chance to make sure that by the end of the week you knew all you were supposed to know.*

*I feel that the best features are the weekly quizzes; they make you keep up with the material instead of putting it off until right before a major test.*

*The units, which provided a self-paced method of learning, and the weekly quizzes, which kept us up-to-date. Also the immediate feedback by the answer sheets after the quizzes.*

*The entire content of the course is always within reach. There is no guesswork between student and teacher as far as test material is concerned. It's a good feeling knowing what material the tests will cover and in my opinion reduces the unnecessary pressure and anxieties that accompany test-taking. There is more time to spend on those items in the course that are more important.*

*If every course reflected the concern for the educational process characteristic of this one, all the energy spent worrying about "just what do I need to know?" could be spent in the learning process itself. Let's have more courses like this one.*

A second question, "What is the worst feature of this course?" brought forth the following responses:

*The weekly exams along with the other subjects this quarter kept the pressure on all of the time and made the quarter tough.*

*Having to take a quiz every week. However, even though this is a bad feature in that aspect, it is a very effective learning tool.*

*It is necessary to put in a lot of time to study for a test. If all my classes required the same amount of time, I could not possibly have enough time to study for them.*

*Some of the handouts had a few errors, but this is to be expected the first time around.*

Three students did not respond or indicated "uncertain," and four students replied "no worst features." Six listed the worst feature as being the time necessary for the course and four cited the weekly quizzes. The students expended more study time than for previous lecture courses. It seems that when presented with objectives and printed content notes, the students studied for mastery, rather than simply studying enough to assuage their anxiety.

From the instructor's standpoint, the course was highly successful. Many topics were added to the course material as a result of constructing course objectives. Some of this material was much more difficult than in previous years and yet the students performed extremely well. Some topics were dropped from the course because it became apparent, when faced with writing objectives, that they were not necessary.

The discussion session held after the first quiz and attended by those not doing well on the quiz also made clear the problems of the poorer students. Deficiencies of both the content notes and prior course knowledge were readily apparent. These sessions enabled the instructor to spend more time with the students having the most difficulty and so were very rewarding. Such a small number of students had to attend these meetings that they were held in a seminar room and were very frank and informal.

## Summary

Michael's Group Remediation System was utilized in teaching a course dealing with the optics of the eye. This system features instructor pacing, study objectives, weekly quizzes, remedial features and incentives for study.

Overall, the students performed at a higher level than those of previous years even though faced with more difficult material. The students came into each unit having mastered, or having come as close as possible to mastering, the previous units and this made an enormous difference in their ability to understand the current unit. The testing system made cumulative failure less probable. Areas of misunderstanding early in the course were not as apt to remain and affect other, later topics.

From the instructor's standpoint the course was highly successful. The students' responses to this course were extremely favorable.

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# An Employment Checklist for Prospective Dental Educators

Paul S. Casamassimo, D.D.S., M.S.

Recent dental literature suggests that there is a shortage of dental educators and provides suggestions for dental schools to increase and improve recruitment efforts. However, little has been published to aid the prospective dental educator in finding the most appropriate position. A checklist to aid the prospective faculty member is proposed, which enumerates critical employment characteristics to be considered by the applicant during the recruitment process. Essential elements of the dental school environment, the department environment, the salary and benefits structure, and the community are discussed. Techniques for application of the checklist are also suggested.

A review of recent dental literature reveals concern about the quality and quantity of candidates for careers in dental education.<sup>1,2,3</sup> However, the problem of faculty recruitment is usually viewed from the standpoint of the employer rather than from that of the potential employee. The literature contains very little information regarding job-seeking strategies or guidelines for those who aspire to careers in dental education.<sup>4</sup> What little is available deals mostly with vague life goals or motives<sup>5</sup> rather than realistic job characteristics. Although some authors have tried to provide specific suggestions, these suggestions usually have been directed to the employer rather than the recruit.<sup>6</sup>

Editor's note: We are indebted to Dr. William M. Dell, O.D., M.P.H., of the New England College of Optometry for initiating the reprinting of this article. It is our opinion that the subject has direct relationship to optometric education and that it provides significant guidance both to prospective faculty members as well as to institutions in the evaluation and selection process.

The literature also suggests that other problems exist, in addition to those of recruitment. Several authors describe the competitiveness of private practice income,<sup>1</sup> the incompatibility of the dentist's primary motivation (individualism) with academic bureaucracy,<sup>3</sup> and better job opportunities elsewhere in academia<sup>7</sup> as reasons for faculty mobility. Posnick<sup>8</sup> found that over 50 percent of newly-appointed faculty felt they had not secured the most favorable faculty position available. Faculty changes (with the exception of those resulting from illness, death, or personal crisis) may result from failure to realize expectations or understandings formed at the time of recruitment, or as the result of factors never even considered by applicants until they begin working. These unrealized expectations and other factors may be financial, social, educational, or ethical in nature.

This paper proposes a checklist for the potential dental educator. The items in the checklist are intended to help the job hunter pursue and acquire the most appropriate position. The dearth of advisory literature suggests that despite the cries of administrators to improve the employment process, the doctrine of *caveat emptor* still prevails. The degree of new faculty dissatisfaction,<sup>8</sup> plus the fact that the majority of new faculty come directly from graduate school,<sup>6</sup> often with only informal counseling about job seeking in the dental education marketplace,<sup>3</sup> suggest that advice to potential dental educators concerning the recruitment process is badly needed.

Reprinted from the Journal of Dental Education, Volume 43, Number 11, 1979, by permission of the journal and the author. Paul S. Casamassimo, D.D.S., M.S., is assistant professor and chief of dentistry, John F. Kennedy Child Development Center, Denver, Colorado.

## Use of the Checklist

The reader should view the checklist as an outline of employment characteristics. It should be adapted to an individual's needs and interests. One approach might be for the recruit to tailor these guidelines into specific questions, based on his or her specialty or career goals, and then use the list as a rating sheet for each school visited. An alternative approach is to make the outline a rating scale, using a point system of 1 to 5, to rate each school by item and on overall desirability. Still another approach would be to list definite "minimum standards" for each item in the checklist.

The candidate could use the checklist between interviews to stimulate questions during subsequent interviews. A complete view of a school often requires that the same question be addressed to all levels of personnel; the checklist provides an organized approach to this task. Differing perceptions of a school are not just interesting examples of human behavior; they can point out problems that might eventually lead to job dissatisfaction.

Finally, the checklist is designed for the prospective educator who is looking for a job that is well-balanced in terms of teaching, research, and clinical practice. The basic scientist, the behavioral scientist, or the administrator will need a more specialized and detailed list to make a suitable evaluation of a potential employer.

## What to Look for

A detailed description of each element within the checklist is unnecessary; attention is focused on several items to suggest pros and cons for the job seeker.

*The Dental School Environment.* The recruit who is unsure about a career in dental education may not place a high enough value on the school environment. Often, the novice views all schools as monolithic, bureaucratic structures in which young faculty are either nurtured or bent to the philosophy of the school while establishing a niche of comfort or responsibility. In fact, no two schools are alike. State-supported schools often have better, more consistent funding than private schools, but may suffer from legislative whimsy or the influence of state dental organizations. Newer schools may enjoy state-of-the-art facilities, but suffer through the rites of curriculum revision year after year. The nature of these differences must be gleaned from interviews, observations, and available literature and then considered in terms of the career goals of the potential faculty member.

Figure 1 depicts a checklist for the dental school environment. The financial picture of the school should be evaluated closely—especially in view of the closing of private schools in recent years, faculty release by one midwestern dental school due to financial cutbacks, and the potential effects of tax-cutting efforts in many states such as Proposition XIII in California. A prospective faculty member may want to assess the school's reputation internally and externally. Is it research-oriented, clinically-oriented, or specialty-oriented? Academic structure becomes important in the decision-making process that will affect a faculty member's long-range (and short-range) future. For example, most dental schools enjoy a position of equality with concomitant autonomy and budget among other colleges within a university system. Others, however, are branches of medical schools with department status, no budget power, and little autonomy. Some dental schools have a cumbersome administrative structure detrimental to progress and change. In some schools, the dean wields final authority, while at others, department chairpersons enjoy almost total sovereignty.

A candidate must decide whether to be part of a school's long-range goals. A dental school's commitment to community involvement, for example, may conflict with a would-be educator's concept of academia. In addition, the educator must live day-to-day with students and fellow faculty. The educator should know how the life-style he or she envisions fits into an academic environment that might consist mainly of researchers, ex-military personnel, part-time educators, or any combination thereof—or into a student body composed of status-conscious, wealthy males from the upper class who alone can afford the tuition, or a heterogeneous and stimulating group of caring men and women.

- 
- A. Finances
    - 1. Analysis of financial base
      - a. state commitment (if state-funded)
      - b. university commitment (if private)
      - c. federal commitment (research, capitation, other)
      - d. endowment
      - e. amount and percent of income from research funds (soft)
      - f. 20-year financial history (increases, decreases)
      - g. proposed or anticipated budget/tuition changes
      - h. alumni support (percent of budget and how used)
  - B. Character
    - 1. Faculty
      - a. analysis of professors, associate professors, and assistant professors
      - b. nature of faculty (nationality, military background)
      - c. mean age, sex distribution
  - C. Structure
    - 1. Departments (dental and basic science)
    - 2. Decision-making structure
    - 3. Committees (types)
    - 4. Curriculum (four year, clinically oriented)
  - D. Relationship
    - 1. Medical center (status of school)
    - 2. Liaison with other health science schools (on a par?)
    - 3. Liaison with community facilities (extern programs, services provided)
    - 4. Priority in university (new buildings, promotions, budget)
  - E. Goals and Priorities
    - 1. New construction (part of school, e.g., clinic)
    - 2. Research and/or clinical prominence
    - 3. National involvement of faculty and administration in organizations
  - F. Student Body
    - 1. Size
    - 2. Character (types of students)
    - 3. Proposed increases or decreases in class size

**FIGURE 1**  
**Dental School Environment**

Answers to a candidate's questions can come from conversation, literature, or observation, but often the search for answers is as revealing as the information obtained. The "affect" of interviewers can provide as much information as the content of their answers.

*The Department Environment.* Figure 2 lists some items for consideration when looking at a particular department.

- 
- A. Finances
    - 1. Analysis of financial base
      - a. university funds
      - b. grant funds
      - c. clinic income distribution (how and where does it go?)
      - d. ten-year budget profile (changes, how is it administered?)
  - B. Faculty
    - 1. Number of full- and part-time faculty
    - 2. Mean age
    - 3. Qualifications
      - a. degrees
      - b. board qualifications
      - c. rank
    - 4. Curricula vitae
    - 5. Special research or other interests of individuals
  - C. Teaching Charges
    - 1. Undergraduate
      - a. clinical
      - b. didactic
    - 2. Graduate
      - a. clinical
      - b. didactic
    - 3. Allied health teaching (M.D.'s, R.N.'s, others)
    - 4. Hospital affiliated teaching
    - 5. Relationship with other departments
    - 6. Priority of assignments
  - D. Physical Plant
    - 1. Square feet
    - 2. Number of dental units and type
    - 3. Support facilities (labs, record room, radiography)
    - 4. Office space (individual or shared, location)
    - 5. Clinic age
  - E. Clinical Operation
    - 1. Assistants for students/faculty
    - 2. Clinical policies (on general matters and specific interests)
  - F. Community Involvement
    - 1. Programs (on-going)
    - 2. Extramural clinics
    - 3. Proposed programs
    - 4. Faculty involvement
  - G. Departmental Goals
    - 1. Curricular changes
    - 2. Faculty expansion
    - 3. Research
    - 4. Grants
    - 5. Community involvement
    - 6. Graduate program

**FIGURE 2**  
**Departmental Environment**

Most department chairpersons seem to put a heavy emphasis on this portion of a recruit's visit by scheduling interviews with as many potential department colleagues as possible. The recruit should use these interviews to obtain specific answers to questions about items on the checklist. For example, a department chairperson may be willing to discuss the academic rank of his or her faculty, but probably will be reluctant to discuss the events around a specific person's promotion or rejection. On the other hand, a faculty member may present a more candid description of the promotion process based on personal experience.

The department visit is also the time to obtain comparative opinions about such well-known platitudes as "hard money is better than soft," "too many chiefs and not enough Indians," or "publish or perish." The recruit will, in other words, want to ask about the funding base of his or her salary, initial clinic, didactic, and laboratory teaching responsibilities, and promotion policies.

Not all the information required can be obtained during the interviews. Curricular structure, syllabi, and clinical policies are often difficult to understand and assimilate during a busy interview visit. The recruit can use the checklist to determine which areas need clarification and ask for documents for later review. The candidate should also try to observe students in the clinics, faculty teaching techniques, lecture facilities, and graduate seminars. Informal conversa-

*The department visit is the time to obtain comparative opinions about such well-known platitudes as "hard money is better than soft," "too many chiefs and not enough Indians," or "publish or perish."*

tions with students can be revealing about the character of a department and quickly point to problems or assets. The checklist can be applied in several ways during the department visit: (1) interviews with as many faculty as possible, (2) solo observation during clinic hours, (3) informal student interviews, and (4) later review of documents on curriculum.

Finally, the recruit must leave with an idea of how he or she will be able to relate to departmental personnel on an interpersonal level and know what specific duties and responsibilities the new faculty position will entail.

*Faculty Responsibility and Support.* Figure 3 portrays a checklist for what might also be called job description and benefits. These items can be viewed as an assortment of academic necessities and luxuries. A candidate will often find that schools differ greatly in some areas, such as benefits, but seem very similar with respect to required clinical teaching and salary range.

The potential educator has probably minimized any desire for material wealth well before an interview visit after consulting readily available literature on comparative faculty salaries in U.S. dental schools.<sup>9</sup> The luxuries of dental education then assume greater importance. Research facilities,



- A. Teaching (For the Position Sought)
  1. Teaching opportunities and responsibilities
    - a. required time teaching per week (student contact time)
    - b. course assignment (labs, lectures)
    - c. opportunity for electives
    - d. graduate involvement
    - e. allied health involvement
    - f. breakdown of clinic and didactic student contact time
    - g. priority of clinical assignment (days of the week)
    - h. continuing education teaching within and outside school
- B. Research
  1. Hours per week for research
  2. Facilities
    - a. basic science
      - 1) laboratory facility/location
      - 2) equipment (types, age)
      - 3) priority of access
    - b. behavioral
      - 1) clinic set-up
      - 2) two-way mirror
      - 3) closed circuit TV
      - 4) isolated operator
  3. Support
    - a. computer access
      - 1) costs
      - 2) terminal in department
    - b. liaison with basic science departments
    - c. liaison with behavioralists
    - d. library search capacity
    - e. library size and volume
      - 1) volumes
      - 2) journals
      - 3) foreign journals in translation
      - 4) readiness to purchase new materials
    - f. availability of research assistants within department
    - g. funding
      - 1) inhouse (university-sponsored)
      - 2) current grants in department
      - 3) proposed grants
  4. Department readiness
    - a. current faculty activities
    - b. proposed activities
    - c. faculty experience with research in past
- C. Practice Opportunity
  1. Amount of time allowed for practice
  2. Required or allowed (encouragement, priority)
  3. Administrative organization of practice
    - a. financial arrangement (percentage)
    - b. billing/operations
    - c. priority of department and newcomer (in intramural setting)
    - d. equipment (age, type)
    - e. supplementary or complementary (in intramural setting)
4. If not intramural, community readiness for another practitioner
- D. Administrative Support
  1. Office space
  2. Secretarial assistance
    - a. number of personnel
    - b. dictation equipment
    - c. priority of faculty assignments to secretaries
    - d. letter, manuscript, grant turnover time
    - e. level of education of secretarial staff
  3. Postage
  4. Telephone limits and personal phone number
  5. Computer services
  6. Printing services
  7. Copying services and limits
  8. Availability of university transportation
  9. Audiovisual services
    - a. artwork
    - b. illustration
    - c. photography
      - 1) clinic camera
      - 2) limits on developing
    - d. range of capabilities for audiovisual production
    - e. TV tapes
    - f. staff competencies (artists, photographers, illustrators)
- E. Salary and Benefits
  1. Starting salary
    - a. how paid (bimonthly, monthly)
    - b. history and frequency of raises
      - 1) cost of living
      - 2) merit increase
    - c. limits on outside income
      - 1) consultations
      - 2) honoraria
      - 3) book royalties
  2. Benefits
    - a. retirement plan
      - 1) vested and transferable
      - 2) TIAA/CREF
    - b. insurance
      - 1) percent of income
      - 2) transferable
    - c. health insurance
    - d. disability
      - 1) starting
      - 2) incremental accruiement
    - e. parking (cost per month)
    - f. sabbatical
      - 1) how soon
      - 2) funding
    - g. dues (dollar limit on organizational dues paid by school)
    - h. travel
      - 1) number of trips per year
      - 2) limitations on cost and per diem

**FIGURE 3**  
**Faculty Responsibility and Support**



- A. Size
- B. Character
- C. Traffic
- D. Growth Over Last Ten Years
- E. School System
- F. Public Transportation
- G. Other Universities and Colleges
- H. Nearest Residential Neighborhood to School
- I. Cultural Activities
- J. Composition of Community
- K. Housing Costs
- L. Tax Structure
  - 1. City
  - 2. State
- M. Recreational Facilities
- N. Churches

**FIGURE 4**  
**Community**

travel support, access to secretarial services, health insurance coverage, and audiovisual support are not all available at every school, nor consistent from school to school. It would be difficult to discuss relative values for each item in Figure 3. The list is comprehensive and should provide the candidate with enough questions to obtain a picture of teaching support and lifestyle expectations. Some pre-interview considerations related to responsibility and support are:

1. to determine personal career emphasis early (to teach, to do research, to seek an administrative position) and find the package that best suits an individual;
2. to determine lifestyle expectations and needs and prepare minimum acceptable salary and benefit levels. Also, one must attempt to relate teaching responsibility to available time, to determine whether there will be time to pursue noncareer related interests.

Most schools will have either counselors or literature to describe benefits. Most often, the strong points and weak points of benefit packages are well known to faculty. The critical issues in evaluating a school's expectations of the candidate and its compensation for realizing those expectations are freedom from financial concern (i.e., a fair and reasonable salary and benefit package) and freedom to permit faculty growth and development without undue pressures from teaching load or administrative duties.

*The Community.* DiBiaggio<sup>10</sup> has applied an industrial model to faculty recruitment and describes the necessity for a candidate's spouse to be involved for successful retention. In today's society of dual-professional couples, placement may be more difficult in, for example, a college-town environment. The traditional single-breadwinner family still requires spouse satisfaction with the community environment. Children of school age narrow choices even further.

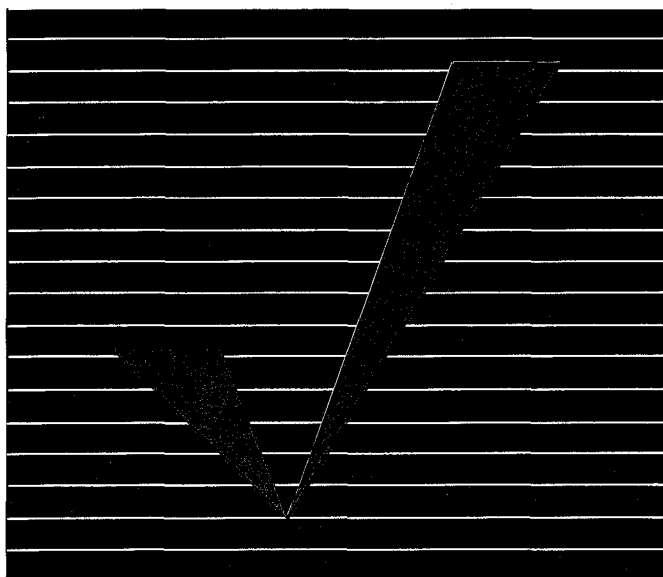
Most visits to schools for a job interview involve at least some time devoted to touring the community. Many recruiters also organize meetings with realtors or visits to faculty homes. Most schools will encourage the spouse to accompany the candidate on a second visit, based on tentative acceptance of an offer; some may even pay for it. In some cases, the candidate will have to assess the community and report his or her perceptions to the spouse. The checklist provides a number of items to be considered (Figure 4).

After-hours informal conversation with faculty can provide an idea of nonacademic activities available in the community. A department chairperson, if alerted, can get literature on particular areas of interest. Some schools work with realtors to prepare packets describing neighborhoods, athletic and cultural activities, and community character.

The candidate must put home and community environment into perspective with career and lifestyle goals. One's family, interests, religion, and cultural characteristics all play a role in determining the importance of the community in a satisfactory placement.

## Summary

A checklist has been presented to aid the potential faculty member in evaluating job opportunities in dental education. Further effort is needed to help the prospective dental educator find a satisfying, appropriate position. Departments should offer formal programs to prepare graduate students for the recruitment process. Information concerning job-seeking in dental education should be published, with emphasis placed on the needs of both employer and prospective employee. A session oriented toward practical concerns at the annual AADS meeting would be beneficial, as would a central clearing house for easily accessible data and advice for applicants.



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# Journal Preferences Among Beginning Optometry Students –

## AN INTER-INSTITUTION COMPARISON

Chester H. Pheiffer, O.D., Ph.D.

In the Spring 1979 issue of this journal, Hofstetter<sup>1</sup> presented the journal preferences of students taking the optometric orientation course at Indiana University. He obtained the data indicating journal preference from written reviews each student was required to submit weekly. Hofstetter stated, "... the purpose of this assignment was primarily to provide exposure to the wide range of serial publications of optometric significance, no academic incentives were initiated to steer the students to any type or quality of magazine ... or the kind of article selected, except that it had to relate in some obvious way to optometry, optics, vision, or the eye." Journal preferences were presented in a table titled "Frequency Rank of Periodicals Reviewed," and it was this table which led to the present article.

The table stimulated the formation of such questions as: Is this ranking of periodicals typical of all students entering the study of optometry or just those at IU? Would the ranking be different at institutions with different approaches to optometric education? Would it be affected by the differing philosophies and concepts of vision held by the instructors? Fortunately, the data required to seek answers to some of these questions were available.



In each year that I taught the orientation and history course at the University of Houston, I required that each student turn in a critique of an article for each of ten weeks during the semester. The students were instructed not to review but to critique the articles. It was noted that a critique is really an evaluation of an article in which the good and bad aspects are discussed. That a critique can be positive as well as negative was emphasized. It was recognized that, as beginning optometry students, they were not competent to evaluate many of the articles which they might read; but they were able to exercise their reasoning and judgmental capacities and could tell whether they liked or disliked an article and why, whether they were impressed or not impressed, whether the article was well written or not and whether or not it was justified. The purpose of the assignment was to encourage the students to read critically whether it be journals or textbooks. Other purposes of the assignment were: to acquaint the students with the library, the large number of

journals in the field of vision, with the journals in related fields publishing articles concerned with vision, with optometric and vision terminology and to become acquainted with various issues in optometry and, in the field of vision.

Reading was directed somewhat in that the article critiqued had to be from a professional or scientific journal. Newspapers, news journals and other popular publications were not acceptable. Also, only a minimum number of state association journals could be used to fulfill the requirement. Only one article was acceptable from any serial publication. Thus, if an article in the June 1978 *Journal of the American Optometric Association* was critiqued, the student would not receive credit for any other article critiqued from the *Journal of the AOA*. Also, all journals had to be dated the same year as that in which the course was being given. Since the course was always given in the fall, none of the journals that were acceptable would have been used to fulfill the requirement in previous years. Although the students were required to critique articles from only ten journals, there was excellent reason to believe that they actually browsed through many more journals and sampled many more articles than those critiqued.

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**TABLE 1**  
**Frequency Rank of Periodicals**  
**Critiqued by UH and Reviewed by IU Students**

Journal	Percent		Journal	Percent	
	UH	IU		UH	IU
Review of Optometry	87	77	Science	6	2
Journal of the American Optometric Association	80	75	Scientific American	6	2
Optometric Monthly	59	48	Color Research and Application	6	1
Optometric Management	55	72	Dispensing Optician	5	41
Journal of Optometric Education	42	35	American Journal of Ophthalmology	5	16
Southern Journal of Optometry	35	9	Experimental Eye Research	5	5
The Optician	31	33	British Orthoptic Journal	5	5
Journal of Optometric Vision Development	30	30	Journal of the Illinois Optometric Association	5	2
The Contact Lens Journal	27	0	New England Journal of Optometry	5	1
Sight-Saving Review	27	11	American Journal of Public Health	4	25
Contact Lens Forum	27	1	Investigative Ophthalmology and Visual Science	4	10
Journal of Pediatric Ophthalmology	27	18	Perceptual and Motor Skills	4	0
Australian Journal of Optometry	22	46	Manufacturing Optics International	4	18
South African Optometrist	26	6	Perception	4	7
Canadian Journal of Optometry	19	27	Journal of Learning Disabilities	4	2
Optical Management	19	17	Kansas Optometric Journal	4	0
Contacto	18	13	Inquiry	4	0
Texas Optometry	18	1	Ophthalmic Surgery	4	0
New Jersey Journal of Optometry	17	3	Japanese Journal of Ophthalmology	3	3
Annals of Ophthalmology	14	26	Public Health Reports	3	2
Archives of Ophthalmology	14	24	Perception and Psychophysics	3	1
Journal of Optometry	12	22	Journal of Continuing Education in Ophthalmology	3	0
International Contact Lens Clinic	12	1	Canadian Journal of Ophthalmology	3	0
American Journal of Optometry & Physiological Optics	12	55	Ophthalmic Research	2	5
Optical Index	12	13	Color	2	3
California Optometrist	12	2	Optics and Laser Technology	2	2
Optometric World	11	22	Survey of Ophthalmology	2	1
Optical World	11	15	Medical Care Review	2	0
Optometrists Exchange	10	24	Nature	2	0
Jena Review	10	4	American Optometric Association News	1	22
Education of the Visually Handicapped	10	0	American Optometric Student Association Review	1	6
Vision Research	9	1	New England Journal of Medicine	1	4
Medical Economics	9	1	Ophthalmologica	1	2
Contact and Intra-Ocular Lens Medical Journal	8	0	Oregon Optometrist	1	1
American Orthoptic Journal	7	1	Journal of Neurophysiology	1	1
Journal of the American Medical Association	7	0	Contact Lens Monthly	1	0
Ophthalmic Optician	6	32	Indian Journal of Ophthalmology	1	0
British Journal of Ophthalmology	6	8	Experimental Brain Research	1	0
			Texas Society for Electronmicroscopy	1	0

The sampling introduced the students to the ongoing activity in the field of vision care from optics to psychology, from anatomy to pathology, from private practice to national politics. They gleaned an inkling of the broad scope of optometric service, and the questions generated by their reading served as discussion topics for part of the course work. Their readings supplemented the lectures and gave them greater dimension.

An underlying principle of the course was to demonstrate what a wonderful profession optometry is, its tremendous contribution to society, the satisfaction that can be derived from providing quality vision care, from being an outstanding diagnostician and therapist as well as being a good doctor. They were also encouraged to think in terms of deriving a "good life" from the practice of optometry as well as a "good living."

As at Indiana University, the library at Houston was located in the same building as the classroom, laboratory and clinical facilities. The majority of the material in the library was on open shelves and therefore conveniently available to the students. Many more publications were available than were used to meet the course requirement. The periodicals on which this report is based contained the articles critiqued during the fall semester of 1978.

### Top Reading Preferences Concur

A list of the periodicals from which articles were selected by the University of Houston students for critiquing is presented in Table 1. The order in which they are presented was established by the percent of students using each. The comparative use by Indiana students is also presented. Table 1 clearly shows that the *Review of Optometry* and the *Journal of the American Optometric Association* were definitely used by a greater number of both Houston and Indiana students than any of the other journals. While there is a rapid dropoff in percentage of Houston students using the journals in third and subsequent places, the Indiana students do not show this dropoff until after the first three journals. Further study of Table 1 would suggest that the reading preference of optometry students at the two schools is not the same. Since the accessibility of materials seems to be relatively the same at both schools, other factors would seem to be indicated as creating the differences.

In that the students can readily acquire personal copies of the *Review of Optometry*, *Journal of the AOA*, *Optometric Monthly* and *Optometric Management*, it might well be expected that these would be the top four journals. Since the accessibility to each of the four is essentially the same, it would appear that the *Review of Optometry* has the highest attraction for the beginning students, closely followed by the *Journal of the AOA* and by *Optometric Management* for the Indiana students. The Association of Schools and Colleges of Optometry can be justly proud of the fact that the *Journal of Optometric Education* was the fifth most used journal by the Houston students and eighth most used by the Indiana students. This is indeed a challenge to the *Journal of Optometric Education* to retain this status.

The difference in use of some journals by the two groups of students is relatively easy to explain on the surface. Thus, many students at Houston were residents of the region served by the *Southern Journal of Optometry*. The ranking of the *South African Optometrist* and of the *Texas Optometry Journal* are readily explained by the larger number of South African and Texas students enrolled in Houston. The great difference in ranking of the *American Journal of Optometry* and *Physiological Optics* may have been due to a difference in emphasis in the two institutions.

An interesting observation evolving from Tables 2 and 3 is an apparent greater interest by the Houston students in vision therapy and contact lenses as opposed to an interest in foreign optometry journals and journals serving opticianry by the Indiana students.

This difference which appears in the lower half of the upper ten most used journals by the two groups combined with Hofstetter's comment that, "approximately 54% of the reviewed articles were from optometry based periodicals; another 11% were from ophthalmology based journals, and about 10% were from journals serving opticianry and optical science and technology,"<sup>1</sup> led to an investigation of how many journals were used in various categories by students of the two colleges. Table 4 shows the number of jour-

**TABLE 2**  
**Ten Most Frequently Critiqued Periodicals**  
**by UH Students and Comparative IU Rank**

Journal	Rank	
	UH	IU
Review of Optometry	1	1
Journal of the American Optometric Association	2	2
Optometric Monthly	3	5
Optometric Management	4	3
Journal of Optometric Education	5	8
Southern Journal of Optometry	6	36
The Optician	7	9
Journal of Optometric Vision Development	8	11
The Contact Lens Journal	9	—
Sight-Saving Review	9	34
Contact Lens Forum	10	103
Journal of Pediatric Ophthalmology	10	23

**TABLE 3**  
**Ten Most Frequently Critiqued Periodicals**  
**by IU Students and Comparative UH Rank**

Journal	Rank	
	IU	UH
Review of Optometry	1	1
Journal of the American Optometric Association	2	2
Optometric Management	3	4
American Journal of Optometry & Physiological Optics	4	17
Optometric Monthly	5	3
Australian Journal of Optometry	6	11
Dispensing Optician	7	23
Journal of Optometric Education	8	5
The Optician	9	7
Ophthalmic Optician	10	22

**TABLE 4**  
**Number of Periodicals Used by Category**

Category	UH	IU	Ketchum Serials List
Optometry	29 (37%)	41 (37%)	
Ophthalmology	17 (22%)	19 (18%)	25 +
Opticianry & Optical Science	10 (14%)	21 (19%)	20
Contact Lenses	6	4	7
Vision Therapy	6	5	8
Low Vision	2	4	9



**TABLE 5**  
**Opticianry and Optical Science and**  
**Technology Based Periodicals**

Journal	Percent	
	UH	IU
Dispensing Optician	5	41
Twenty-Twenty	0	19
Manufacturing Optics International	4	18
Optical Management	19	17
Optical World	11	15
Optical Spectra	0	13
Optical Index	12	13
Optics News	0	8
Jena Review	10	4
Color	2	3
Light & Lighting in Environmental Design	0	2
Optics & Laser Technology	2	2
Optical Engineering	0	2
Laser Focus	0	1
Optics Letters	0	1
Lighting Design and Application	0	1
Color Research and Application	6	1

**TABLE 6**  
**Ophthalmology Based Periodicals**

Journal	Percent	
	UH	IU
Annals of Ophthalmology	14	26
Archives of Ophthalmology	14	24
Journal of Pediatric Ophthalmology	27	18
American Journal of Ophthalmology	5	16
Metabolic Ophthalmology	0	13
Investigative Ophthalmology and Visual Science	4	10
British Journal of Ophthalmology	6	8
Philippine Journal of Ophthalmology	0	8
Ophthalmology	0	6
Australian Journal of Ophthalmology	0	6
Acta Ophthalmologica	0	5
Experimental Eye Research	5	5
Ophthalmic Research	2	5
Japanese Journal of Ophthalmology	3	3
Ophthalmologica	1	2
Survey of Ophthalmology	2	1
Advances in Ophthalmology	0	1
Vision Research	9	1
Medical Ophthalmology	0	1
Transactions of the American Ophthalmological Society	0	1
Journal of Continuing Education in Ophthalmology	3	0
Indian Journal of Ophthalmology	1	0
Canadian Journal of Ophthalmology	3	0
Contact and Intraocular Lens Medical Journal	9	0
Ophthalmic Surgery	4	0

nals used in categories that appear in the "Subject Index to Current Serial Subscriptions," as compiled by the Southern California College of Optometry M.B. Ketchum Library.<sup>2</sup> It is intriguing to note that the number of optometry based periodicals was 37% of the total number of journals used by the students of each institution. The percent of ophthalmology based journals was 22% for Houston and 18% for Indiana. The opticianry and optical science and technology based journals composed some 14% of the journals used by the Houston students and 19% of the journals used by the Indiana students.

The percentage of students using articles from opticianry and optical science and technology based journals are presented in Table 5. This table shows that the Indiana students not only reviewed articles from a greater number of journals in this category, but that each of the journals was used by a greater number of Indiana than Houston students with rare exception. The two exceptions that might be considered significant are the *Jena Review* and *Color Research and Application*.

The percentages of students critiquing or reviewing articles from ophthalmology based journals are shown in Table 6. It is interesting to note that of the twenty-five titles listed, the Indiana students reviewed articles from eight journals not used by Houston students and the Houston students critiqued articles from five journals not used by the Indiana students. Although the rank order is not the same for the students from the two institutions, there is an agreement on the top three journals; namely, *Annals of Ophthalmology*, *Archives of Ophthalmology* and *Journal of Pediatric Ophthalmology*.

### Low Vision Interests are Similar

The data also make possible a partial answer to the intriguing question, "What is the relative interest of the students at the two institutions with respect to the optometric services of low vision, vision therapy and contact lenses?" Table 7 shows an apparent greater interest by the Indiana students in low vision in that they reviewed articles from four publications, compared to two by the Houston students; and the total percent of students using these exceeds that of the Houston students. However, if the *Prevent Blindness News* is excluded, since the Houston students were oriented to the use of journals, then the percent of students using journals in the area of low vision is approximately the same (37% Houston and 41% Indiana). However, the emphasis, as indicated by the specific periodicals used, does seem to be somewhat different.

In the area of vision therapy, the similarities are far more significant than the differences (Table 8). A total of six periodicals was used and five of these were used by students from both institutions. The *Journal of Optometric Vision Development* is clearly the preferred journal followed closely by the *Journal of Pediatric Ophthalmology*. These data would suggest that some 30% of the students have an interest in vision therapy during their first year in optometry. One can only wonder what percent of the students have this interest in vision therapy when they graduate. It has been suggested that less than 5% of the graduating class offers vision therapy upon entering practice. It has been found that many students have an interest in vision therapy as a result of the indoctrination provided by the optometrist who recruited them or with whom they consulted about their career choice. These observations would surely suggest that further study needs to be made to determine whether the schools

and colleges of optometry are continuing the tradition of optometry in this area of vision care.

Table 9 shows a striking difference between the two groups of students. The Houston students critiqued articles from more journals concerned with the contact lens service than did the Indiana students. Also, a far greater percentage of the Houston students critiqued articles in this area of service. The journal used most frequently by the two groups, *Contacto*, was the third most frequently used journal by the Houston students and the second most frequently used journal by the Indiana students. This table does suggest that there is a definite difference in interest in contact lenses by the students in the two institutions in terms of number of journals used and number of students using each journal.

Earlier, it was noted that the Indiana students appeared to review articles from foreign journals more than did the

Houston students. An analysis of Table 1 shows that of the twenty foreign journals obviously related to optometry, the Indiana students reviewed articles from eighteen while the Houston students critiqued articles from fourteen. Whereas the Houston students critiqued articles from only two foreign journals that were not used by the Indiana students, the Indiana students reviewed articles from six that were not critiqued by the Houston students. Six of the twenty journals were used by 22% or more of the Indiana students, whereas only three were used by 22% or more of the Houston students. The original observation appears to be confirmed.

### Summary

A comparison of periodicals selected by beginning students in two colleges of optometry to satisfy course requirements has been presented. The data obtained show:

- that the students at both institutions concur with respect to the two journals most frequently used;
- that there is fair agreement between the students of the two institutions with respect to six of the ten most frequently used journals;
- that the Indiana students used a greater number of titles in fulfilling their requirement than did the Houston students;
- that the Indiana students reviewed more articles from opticianry and optical science and technology based journals than were critiqued by the Houston students;
- that the three most frequently used ophthalmology based journals at one institution were also the most frequently used at the other institution;
- that the interest in low vision at the two institutions appears to be relatively similar with a possibly slightly greater interest by the Indiana students;
- that there is an amazing similarity in interest in vision therapy by the two groups in the rank of the journals in this area of service and in the number of students at each institution using these journals;
- that the Houston students appeared to have a greater interest in contact lens service than the Indiana students;
- that a greater number of foreign journals were used by a greater number of Indiana students than Houston students in fulfilling the requirement.

Although journal title has been used synonymously with article pertaining to a specific optometric service, it is recognized that many journals carry a wide variety of articles and that a true analysis of subject interest by the various students would require an analysis of the articles reviewed and critiqued.

An attempt has been made to explain some of the similarities and differences between the two groups. Among these were accessibility to the various journals and regional interests. Other differences may be due to emphasis by the instructor, criterion for journal acceptability and other unknown variables.

### References

1. Hofstetter HW: Journal preferences among our beginning students. *J Opt Educ* 4(4):28-30, Spring 1979.
2. Subject Index to Current Serial Subscriptions. M.B. Ketchum Library. Southern California College of Optometry. Sept. 1978, mimeo.

**TABLE 7**  
**Low Vision Periodicals**

Journal	Percent	
	UH	IU
Journal of Visual Impairment and Blindness	0	29
Prevent Blindness News	0	16
Sight-Saving Review	27	11
Braille Forum	0	1
Education of the Visually Handicapped	10	0

**TABLE 8**  
**Vision Therapy Periodicals**

Journal	Percent	
	UH	IU
Journal of Optometric Vision Development	30	30
Journal of Pediatric Ophthalmology	27	18
British Orthoptic Journal	5	5
Journal of Learning Disabilities	4	2
American Orthoptic Journal	7	1
Education of the Visually Handicapped	10	0

**TABLE 9**  
**Contact Lens Periodicals**

Journal	Percent	
	UH	IU
Contact Lens Journal	27	0
Contact Lens Forum	27	1
Contacto	18	13
International Contact Lens Clinic	12	1
Contact and Intra-Ocular Lens Medical Journal	8	0
Contact Lens Monthly	1	0
Optometric Observer and Contact Lens News	0	22

# Annual Survey of Optometric Educational Institutions 1978-79

An annual survey of accredited optometric educational institutions is conducted by the Council on Optometric Education (COE) of the American Optometric Association as part of the ongoing process of accreditation. The following report extracts some of the characteristics of student enrollment and financial aid from this survey and summarizes the information for the academic year 1978-79.

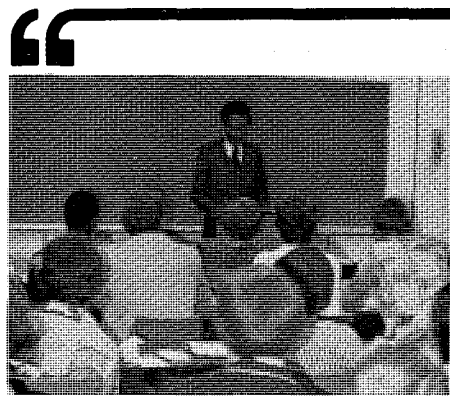
## Student Enrollment

A total of 4,436 students were enrolled in the professional degree program during the academic year 1978-79. This represented an increase of 5% or 227 students over the previous year's total of 4,209. First-year students totaled 1,181 in 1978-79, representing an increase of 3.6% or 41 students over 1977-78.

An overwhelming majority (70%) of first-year students had four or more years of college when entering optometry school in 1978-79. Of these, 92% had a baccalaureate or higher degree, which represented 64% of the entering class. These percentages were in keeping with those reported in 1977-78 in which 70% of the entering students had 4+ years of college and 64% had a baccalaureate or higher degree.

Women students comprised 20% or 231 of the entering class in 1978-79 and 17% or 757 of the total enrollment. This represented an increase of 2% in

the entering class and 17% in total enrollment over 1977-78. Female enrollment has seen a steady increase over the last few years, with women representing 19% or 226 of the entering class in 1977-78 and 15% or 647 of total enrollment.



*An overwhelming majority of first year students had four or more years of college when entering optometry school in 1978-79.*

Minority student enrollment increased by 4% over 1977-78 figures from 343 students to 358 in 1978-79. However, the percentage of overall student body represented by minority enrollment declined from 8.15% in 1977-78 to 8% in 1978-79. Consequently, even though the number of minority increased in 1978-79, the overall percentage of student body has continued to decline from an all-time high of 8.9% (346 students) in 1975-76.

Of minority students enrolled in 1978-79, 46% were Asian American, 18% Spanish surname, 17% Black American, 14% foreign nationals and 3% native American Indian. Women comprised 35% of the total minority enrollment.

## Grade Point Average

The mean grade point average for entering students in 1978-79 was 3.295. This remained about the same as that reported in 1977-78: 3.29. Twelve of the thirteen accredited U.S. optometry schools achieved a mean grade point average of 3.0 or better, and eight institutions achieved a mean GPA of 3.25 or better.

These grade point averages are based on a total of 1,160 entering students for the year 1978-79, as reported in *Information for Applicants to Schools and Colleges of Optometry*, Fall 1980.\* Information concerning grade point averages was not reported in the COE annual survey.

## Financial Aid

The total amount of aid excluding loans\*\* granted to optometric students for the year 1978-79 was \$983,041+. This represented a substantial increase of 49% over the previous year's total of \$660,317. Of this aid, however, 21% or \$207,688 was provided by federal funds and 72% or \$711,548 by state funds. While the source of federal aid decreased by 7.6% from the previous year's figure of \$224,676, the state share increased by 106.4% from \$344,791.

Student loans granted through institutions increased by 65% in 1978-79 from \$3,285,196+ in 1977-78 to \$5,423,456. Forty percent or \$2,168,334 of this amount was from federal sources which represented an increase of 11% from the previous year's share of \$1,945,653.

## Summary

Overall, these portions of the 1978-79 *Annual Survey of Optometric Educational Institutions* show a slight increase in total student enrollment, with a majority of entering students still bringing four or more years of previous college background with them. More than two-thirds of first-year students had a baccalaureate or higher degree.

Female enrollment has continued to climb steadily, with a 17% increase over 1977-78's figures. Minority student enrollment showed a 15% increase in numbers but represented a slight decrease in overall percent of student body. Asian Americans represented the largest group of minority enrollment, followed by Black American, foreign nationals and native American Indian.

The mean grade point average of entering students remained about the same at 3.295. All but one of the thirteen accredited optometric institutions reported a mean GPA of 3.0 or better.

Financial aid in the form of scholarships, fellowships and the like increased substantially over the previous year with the largest share of aid coming from the state. While the federal share decreased by about 7%, the state share of aid increased by more than 100 percent. On the other hand, the federal share of aid for student loans granted through institutions increased, as did the total amount of financial aid through student loans.

A number of abbreviations have been used in the accompanying tables. They are:

### Schools

FSC	— Ferris State College
ICO	— Illinois College of Optometry
IU	— Indiana University
NECO	— New England College of Optometry
PU	— Pacific University
PCO	— Pennsylvania College of Optometry
SCCO	— Southern California College of Optometry
SCO	— Southern College of Optometry
SUNY	— State University of New York
TOSU	— The Ohio State University
UAB	— University of Alabama in Birmingham
UCB	— University of California, Berkeley
UH	— University of Houston

## Provinces and Territories

CZ	— Canal Zone
PR	— Puerto Rico
USP	— U.S. Possessions
ALB	— Alberta
BC	— British Columbia
MAN	— Manitoba
NB	— New Brunswick
NF	— Newfoundland
NS	— Nova Scotia
ONT	— Ontario
PEI	— Prince Edward Island
QUE	— Quebec
SAS	— Saskatchewan
CAN. TER.	— Canadian Territories
O. COUN.	— Other Countries

\*Information for Applicants to Schools and Colleges of Optometry, Fall 1980. American Optometric Association, St. Louis, Missouri. No explanation can be given for the discrepancy in numbers of first-year students reported in this booklet and the COE 1978-79 *Annual Survey of Optometric Educational Institutions*.

\*\*Includes scholarships, fellowships, grants in aid, etc.

## PROFILE OF 1978 ENTERING CLASS

### Grade Point Averages

	High	Low	Mean	Number of Students
FSC	N/A	N/A	3.36	30
ICO	N/A	N/A	3.27	155
IU	N/A	N/A	3.52	69
NECO	3.88	2.50	3.18	89
PCO	3.92	2.50 <sup>a</sup>	3.20	150
PU	3.96	2.54	3.40	85
SCCO	4.00	2.58	3.26	96
SCO	3.94	2.15	2.91	150
SUNY	3.9	2.7	3.3	68
TOSU	4.00	3.08	3.53	60
UAB	3.84	2.34	3.18	40
UCB	4.00	2.14	3.37	68
UH	4.0	2.7	3.36	100
TOTAL			3.295	1160

Source: *Information for Applicants to Schools and Colleges of Optometry, Fall, 1980*. American Optometric Association, St. Louis, Missouri.

N/A—Not Available

<sup>a</sup>Students normally may not be considered for admission with less than 2.5 (C+) average.



# **1978-79 Annual Survey of Optometric Educational Institutions Student Enrollments**

## **Number of First Year Students Enrolled With:**

	<b>2+ Yrs.</b>	<b>3+ Yrs.</b>	<b>4+ Yrs.</b>	<b>B.A., B.S.</b>	<b>M.A., M.S.</b>	<b>Ph.D.</b>	<b>Total</b>
FSC	8	10	1	11			30
ICO	4	29	10	107	5		155
IU	21	22	3	21	2		69
NECO		6		81	2	7	96
PCO		25		118	7		150
PU	20	26	4	33	1		84
SCCO	7	17	4	67	1		96
SCO	16	26	18	86	4		150
SUNY			10	56	4		70
TOSU	17	17	4	20	2		60
UAB		5		33	2		40
UCB	2	32		34			68
UH	22	23	13	42	5	1	106
U.S. TOTALS	117	238	67	709	35	8	1174

# **1978-79 Annual Survey of Optometric Educational Institutions Student Enrollment**

## **Full-Time Students Enrolled in the Professional Degree Program**

	<b>First Year</b>		<b>Second Year</b>		<b>Third Year</b>		<b>Fourth Year</b>		<b>TOTALS</b>		
	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>
FSC	27	3	23	4	20	2	17	3	87	12	99
ICO	136	21	123	22	131	15	126	18	516	76	592
IU	48	21	46	21	45	17	56	12	195	71	266
NECO	68	28	63	21	67	17	68	19	266	85	351
PCO	120	30	129	24	115	26	111	17	475	97	572
PU	67	17	62	21	63	13	79	7	271	58	329
SCCO	75	21	72	22	82	12	96	7	325	62	387
SCO	142	9	146	6	131	12	129	14	548	41	589
SUNY	53	18	35	23	43	10	36	3	167	54	221
TOSU	47	14	50	9	48	7	47	8	192	38	230
UAB	33	8	29	15	28	4	29	4	119	31	150
UCB	51	17	50	13	50	13	52	15	203	58	261
UH	83	24	80	20	82	17	70	13	315	74	389
U.S. TOTALS	950	231	908	221	905	165	916	140	3679	757	4436

## 1978-79 Annual Survey of Optometric Educational Institutions Student Enrollment

### Minority Group Students Enrolled

	Black American		Spanish Surname		Native American Ind.		Asian Amer.		Foreign Nationals		TOTALS		Total	% of Student body
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		
FSC	1						1				2		2	2
ICO	1	4	2				16	6	1		20	10	30	5
IU	4	11		4		1	2	2	4	1	10	19	29	11
NECO	4		2				2	4	3	3	11	7	18	5
PCO		5	3	4			1	5	2		6	14	20	3
PU	1		1		3		14	10	1	1	20	11	31	9
SCCO	2		12	1	2		22	11	1		39	12	51	13
SCO	3	1					4	1			7	2	9	2
SUNY		2	1	1	1		2	5	2	1	6	9	15	7
TOSU		2	1				1				2	2	4	2
UAB	5	5									5	5	10	7
UCB	4	3	14	2	1		31	17			50	22	72	28
UH	3	1	15	3	3		5	4	27	6	53	14	67	17
U.S. TOTALS	28	34	51	15	10	1	101	65	41	12	231	127	358	8

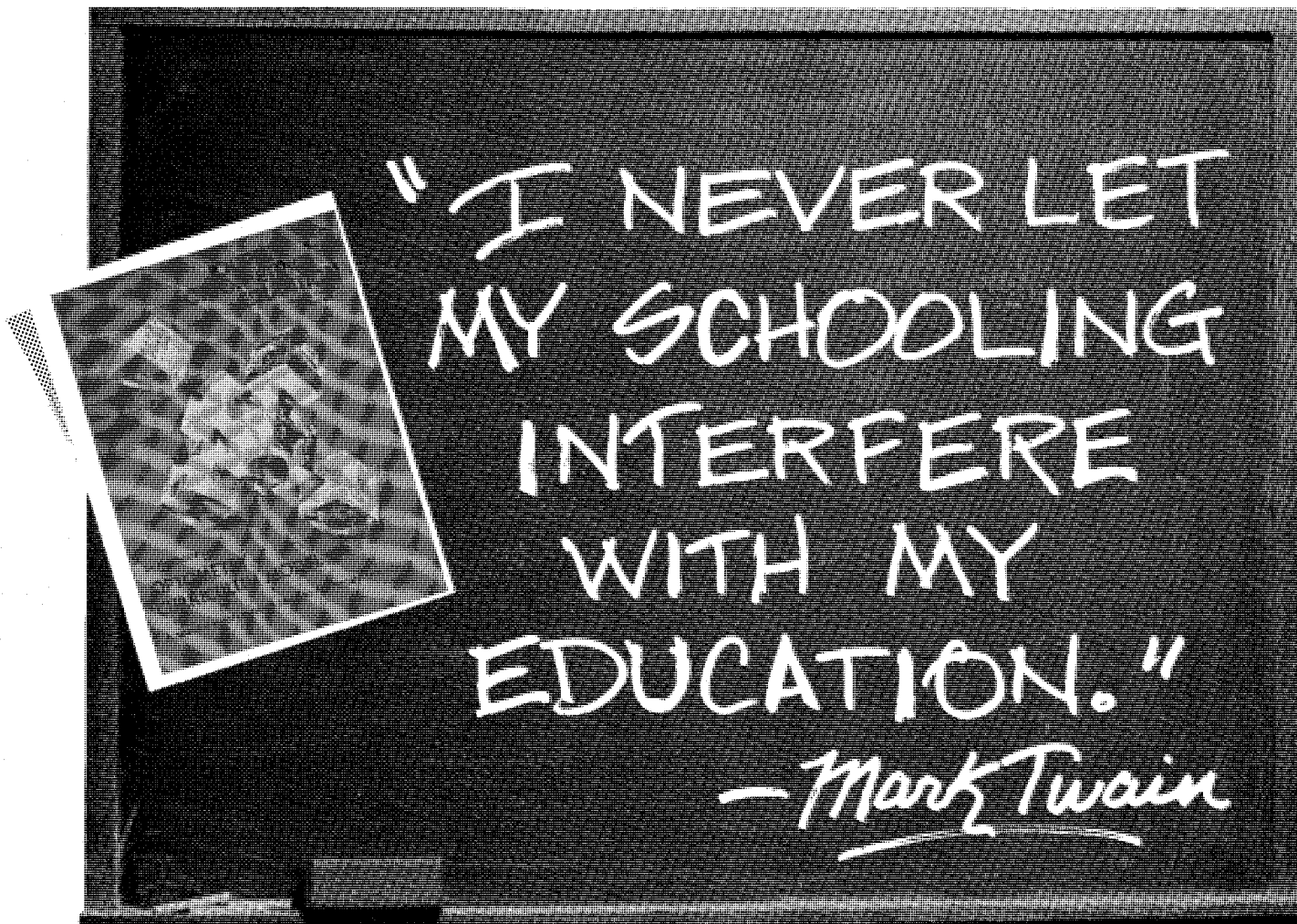
## 1978-79 Annual Survey of Optometric Educational Institutions Students

Financial Aid Granted through Institutions Excluding Loans								Student Loans Granted through Institutions					
Percentage of Students Receiving Aid								Percentage of Students Receiving Loans				Amount	
1st Year	2nd Year	3rd Year	4th Year	Total	From Federal	From State		1st Year	2nd Year	3rd Year	4th Year	Total	Federal
FSC	19	18	40	N/A	9,902	4,542	4,360	11	54	45	N/A	27,445	26,950
ICO	2	2	2	1	19,404	4,564	8,340	35	24	41	33	197,650	170,700
IU	1	1	1	1	9,000	1,000	8,000	35	35	35	40	160,000	155,000
NECO	25	45	23	7	35,950		19,050	64	50	35	31	216,942	216,942
PCO	1	1	1	6	7,200		3,100	81	61	55	54	1,763,011	37,306
PU	31	48	48	38	305,488	14,000	280,488	49	49	49	49	795,000	188,175
SCCO	53	48	39	15	334,175	36,403	297,772	91	77	100	100	801,680	475,086
SCO	0	0	0	0	0			33	31	30	37	390,650	343,464
SUNY	1	3	3	15	42,900+	5,000	37,900	70	60	65	65	350,000	70,000
TOSU	20	29	27	25	24,405	1,500		28	25	25	35	131,142	106,879
UAB	0	3	0	5	1,400			52	77	72	63	258,874	98,732
UCB	2	2	8	30	16,000	13,653	2,347	10	13	35	42	135,000	115,715
UH	35	35	35	32	177,217	127,026	50,191	20	18	19	33	196,062	163,385
U.S. TOTALS					983,041+	207,688	711,548					5,423,456	2,168,334

# 1978-79 Annual Survey of Optometric Educational Institutions

## Permanent Residence

	FSC	ICO	IO	NECO	PCO	PU	Totals SCCO	SCO	SUNY	TOSU	UAB	UC	UR	U.S. TOTAL
AL			1					2			95			98
AK						5	2					1		8
AZ		2			1	9	18					1		31
AR				1	1			54					18	54
CA		26	4	4	4	55	195	5	2			278		412
CO		2		1	1	15	19	2						40
CT		3	1	38	8	1	5	2						56
DE					8			4						12
DC					2							1		3
FL		11	3	7	13	6	7	63					22	129
GA		2	3	2	1			53			9			60
HI		4	2		1	15	11					4		37
ID						10	7			1		1		19
IL		168	13	3	1	2	8	3						194
IN		6	168	1			3	2						178
IA		47	8			7	13	5						77
KS		2				2	3	17					23	47
KY			2				1	28			8		19	57
LA							3	27			4		27	61
ME				31	1	2	1	3				1		39
MD		8	2	3	44		2	20			7		3	89
MA		5	2	121	7	2	1	2	2			1		143
MI	95	63	6	2	2	5	5	6				2		142
MN		13	3	1	1	18	13	1		1		1		52
MS			1					29			3		6	39
MO		12	6			2	11	6						37
MT						17	17							34
NE		4				7	9	16		3			10	53
NV						7	12					2		21
NH		2		12	2	1		1						18
NJ		2	1	12	78		3	4	3			1		105
NM		8	1			4	15	1				1	9	35
NY		78	5	62	66	11	8	6	211			9		453
NC		2	2		33		1	55			8	1	7	109
ND		5				11	8			3				27
OH		23	4	2	8	1	1	4		218		1		264
OK			2			3	6	93					24	78
OR				1		46	7							54
PA		18	3	10	239	1	4	3	1			1		282
RI		1	1	20	3	1								26
SC		2		1				58			8			45
SD		8		1		6	6							21
TN		3		1				73						77
TX		2					1	1					185	189
UT		1				11	14							26
VT				4			1							7
VA			3	2	29		2	12			8			56
WA		3		1		56	11					1		62
WV		7	1		12			20		3				43
WI		52	17	2		8	14	2		1		1	1	98
WY			1			10	10	1						26
CZ														
PR			1		5		1						1	8
USP							1							1
ALB						1	1							2
DC														
MAN														
NR														
ME													3	3
NS														
ONT									1				1	2
PBI														
QUE				1									1	2
SAS														
CAN TIA														
D. C. IN		1	4	8	2	1			1				25	37
TOTAL	99	592	299	263	572	329	387	589	221	238	150	261	349	4435



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