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NEWS AND COMMENT

SECTION NEWS

Maryland Section

The Maryland Section held its semi-annual meeting in June at the Cross Keys Inn in Baltimore. It was announced that the Section would sponsor annually a J. Ben Robinson Lecture, in honor of this distinguished educator. The first lecture will be given by Gardner P.H. Foley, well-known dental historian on November 4, 1976.

Left to right: Errol Reese, dean of the University of Maryland Dental School; J. Ben Robinson, dean emeritus; Kyrle Preis, chairman of the lecture committee; and Eugene Pessagno, chairman of the Maryland Section.

Washington-British Columbia Section

The Section held a dinner meeting in Spokane in May. Dr. James Vernetti, President of the College and Regent Arnol Neely, were our guests. Also attending as guests were Dr. J.D. McNalley, president of the Washington State Dental Association, and Dr. A.H. Heston, president of the Spokane District Dental Society.

Chairman Ted Harper presided and welcomed new Fellows Charles Farrel and Weston Brown. Also introduced was Art Fry from Sandpoint, Idaho.

We then had a report from our new Regent, Arnol Neely of Portland, Oregon. Fellow Neely discussed many things pertinent to the working of the College including the possibility of a Regional meeting within the next few years.

He was followed by a very inspiring message from our President, James Vernetti. We greatly appreciate having these two College officers present.

The speaker of the evening, Mr. John Roskelley, gave an excellent program on mountain climbing with slides of climbs in many parts of the world. He also demonstrated equipment used by woman climbers. A short business meeting followed.

Officers elected for 1976-77 were: chairman, Lloyd Rolford; first vice-chairman, Gordon Raisler; second vice-chairman, Ewing M. Johnson; secretary-treasurer, Dick Tucker.

NEWS OF FELLOWS

ADA president **Robert B. Shira** recently received an honorary degree of doctor of science from Georgetown University Dental School.

Jack H. Pfister of Wahpeton, North Dakota has been elected Treasurer of the American Dental Association.

Philip J. Boyne, dean of the University of Texas Dental School at San Antonio recently received an honorary doctor of science degree from the College of Medicine and Dentistry of New Jersey.

Coleman Gertler of Glendale, Wisconsin was recently awarded the 1976 Outstanding Service Award at the annual session of the Wisconsin Dental Association.

(Continued on page 262)

the JOURNAL of the AMERICAN COLLEGE of DENTISTS

A QUARTERLY PRESENTING IDEAS IN DENTISTRY

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ALBERT B. SABIN
Convocation Speaker

Albert B. Sabin is Convocation Speaker

World-renowned research scientist, Doctor Albert B. Sabin, will be the principal speaker at the annual Convocation ceremony of the College which will take place at the Hilton Hotel in Las Vegas on Saturday, November 13, 1976.

Dr. Sabin is currently Distinguished Research Professor of Biomedicine at the Medical University of South Carolina, in Charleston. Born in Russia, he received his medical degree from New York University. He was a staff member of the Rockefeller Institute for Medical Research in New York, before becoming professor of pediatrics at the University of Cincinnati College of Medicine. As a Lieutenant-Colonel in World War II he served on special missions to investigate epidemic diseases in the Middle East, Africa, Sicily, Okinawa, and the Philippines. For these services he was awarded the Legion of Merit medal.

In 1946, Dr. Sabin returned to the University of Cincinnati as professor of research pediatrics. During the next quarter century his research into the bacterial and viral causes of disease took him all over the world. He was subsequently president of the Weizman Institute of Science in Israel, Fogarty Scholar, at the Fogarty International Center for Advanced Study in the Health Sciences, and Expert Consultant to the National Cancer Institute of the National Institutes of Health, before accepting his present position in South Carolina.

He has studied extensively the nature of human poliomyelitis, and its epidemiology and worked on attenuated, orally administered poliovirus vaccine. He developed protective vaccines for encephalitis and dengue, was first in the United States to isolate the protozoon parasite, toxoplasma, and elucidate its role in human disease, and studied the role of viruses in cancer. He is the author of over 300 papers in his field.

Dr. Sabin's honors have been legion. He is a Fellow of the American Academy of Arts and Sciences, member of the National Academy of Science, is the recipient of the Albert Lasker Clinical Medicine Research Award, the 1970 U.S. National Medal of Science and the Distinguished Civilian Service Medal of the U.S. Army. He holds 24 honorary degrees and has received numerous awards, medals and decorations from foreign governments, universities and learned societies.

The American College of Dentists is honored to have so distinguished a scientist as Dr. Sabin as its convocation speaker.

Editorial

Medicaid Abuses

The provision of health care for the indigent under Title XIX, the Medicaid statute, was hailed as a giant step in social legislation for it offered care to a large segment of the population which had hitherto been unable to afford it. According to recent reports however, some flaws in the program have produced costly abuses.

The implementation of the law was left to the individual states. Most chose to participate in the program since a substantial share of the cost would be funded by the federal government. As established, care was to be provided mainly by the private sector, in hospitals and nursing homes and in the private offices of health care practitioners — physicians, dentists and others.

Although many practitioners began to treat patients under Medicaid, a substantial number would not participate because of the level of reimbursement offered, which was considerably lower than their usual and customary fees. Some physicians and dentists in large cities set up solo or group practices in storefront offices in ghetto or inner city areas, in order to make care more easily accessible to their patients. Some practitioners, to enhance their accessibility and provide as much care as possible for their area, kept their offices open for long hours, often until late at night. Unquestionably many of these doctors were motivated by an altruism of the highest type, but in some instances the profit motive began to supersede the needs and best interests of the patients, and abuses crept into the program. Within some group practices, patients were shunted from doctor to doctor. Unneeded medicines were prescribed, unnecessary laboratory work ordered, overtreatment, and incorrect treatment were common. At times outright fraud took place, through improper billing for services never performed.

Unfortunately the surveillance section of state Medicaid offices were inadequate, understaffed or nonfunctional, and did not or could not bring to light all the irregularities that took place, although from time to time some of the more obvious cases were discovered, and the offenders called to account for their volations.

The recent congressional inquiry turned up many of the abuses in some detail, and while the press and the public deplores these findings, a number of important facts must be borne in mind. The fact that a provider earns the major portion of his income treating

Medicaid patients should not give rise to the assumption that he is dishonest. Not all practitioners in ghetto areas are running "medicaid mills," and not all busy medicaid practices are necessarily involved in fraudulent activities.

The crisis in confidence which has developed however, because of the recent investigation, requires some definite action. The states must increase their surveillance procedures and make greater efforts to determine that patients are receiving proper and adequate care. Practitioners who are found guilty of violations must be eliminated quickly from the program. Penalties should be increased, and violators prosecuted to the full extent of the law.

A further remedy would be to provide more adequate reimbursement for services, thereby attracting more providers into participation in the program and distributing the patient load among a larger group. In most states, fees have not been increased since the inception of the program, despite rapid inflation which has caused such fees to be less and less attractive to providers. Whatever the fees though, there can be no excuse for cheating or fraud.

Another problem which had led to financial abuse of the program is the slowness in paying Medicaid claims. In some states payment takes six months or more, which has given rise to "factoring" whereby a fourth party purchases the claim at a discounted price. Payment, when issued, goes directly to the "factor." This in effect is a form of fee splitting, a practice looked upon as unethical by the professions. There needs to be a speed up in claims payment that would make "factoring" unnecessary.

In some instances, it has been discovered that lay persons are the owners of "Medicaid mills," employing salaried doctors whose professional services are under the control of individuals or groups interested in financial gain, and not in the welfare of the patients. To correct this abuse, states would do well to pass legislation requiring that no one but a licensed professional person may own and operate an office that provides health care.

While most professional providers are undoubtedly honest and sincere, rendering the same level of care to their Medicaid patients as to their fee-paying patients, the small percentage of violators who have cheated the program out of large sums makes it imperative that the states take rapid action to correct the irregularities.

R.I.K.

A Tribute to J. Ben Robinson

KENNETH V. RANDOLPH, D.D.S.

We are here to honor a man because of what he has meant to each of us as individuals, what he has meant to the dental profession, and what he has meant to society at large. His ideals, philosophies, and personal characteristics are so penetrating that there is no realistic way of measuring their impact. Most assuredly, I feel incapable of attempting to reflect the influence of this man on the hundreds of thousands of lives affected by him. I believe the comments I make, however, will be endorsed by the many whom I am privileged to represent.

There is no person, past or present, who has established and promoted higher ideals for the dental profession. An authority on the history of dentistry, Dr. Robinson has used advantageously his knowledge of the early developments in oral health care, his understanding of the experiences and hardships of those who sought to establish dentistry on a professional basis, and his appreciation of the adversities that befrought those who had strong convictions and the courage to fight for those convictions. Fortified with this knowledge, he has been able to guide dental education, stimulate organized dentistry, and mould the concepts of dental practice. It is not surprising that his judgment, wisdom, and capabilities resulted in his being named by the National Library of Medicine as one of the "twelve outstanding dentists" of all times.

One would find it difficult, if not impossible, to select that area of dentistry to which the honoree has made the greatest contribution. His knowledge and versatility are so great that his contributions and influence have been felt in dental education, dental literature, dental organizations, dental research, and dental practice. I am confident, however, that Dr. Robinson would regard dental

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Presented at the J. Ben Robinson Recognition Ceremonies on April 9, 1976, at the University of West Virginia Dental School, Morgantown, West Virginia. Dr. Randolph is dean of the Baylor University Dental School, Dallas, Texas.

education as his chief endeavor. His formal academic affiliations spanned the period 1914 to 1958 with the exception of two years during which time he served as a member of the Maryland State Board of Dental Examiners. Thirty-four years of his service in dental education were spent as a dean and chief executive officer. Twenty-nine of these years were at the Baltimore College of Dental Surgery, Dental School, University of Maryland and five years at West Virginia University School of Dentistry. He achieved the highest administrative positions in organized dentistry, including the presidency of the American Dental Association, the American Association of Dental Schools, and the American College of Dentists. His research and publications in the field of Dental History have made it possible for others to fully appreciate the heritage of a great profession. Continuous involvement in private patient care from 1914-1941 gave him a keen insight into the problems, needs and responsibilities of the dental practitioner.

Left to right: W. Robert Biddington, dean of the West Virginia University School of Dentistry; Kenneth V. Randolph, dean of the Baylor University Dental School; and J. Ben Robinson, honored guest. The bronze bust of Dr. Robinson, which was presented to the dental school, can be seen at right.

Incidentally, this private practice began in Clarksburg just a few miles from his birth place. After a short time he responded to the tremendous pressure for him to return to Baltimore and teach; consequently, his patient care was restricted essentially to that city.

Because of his skills as an educator, administrator, researcher, author, historian, and practitioner, he has been the recipient of the highest honors offered in dentistry. Recognition for excellence in his profession began in 1914 when he was graduated from the University of Maryland summa cum laude. The records show a steady flow of honors from that date through today. The list is long, and his worthiness of each is without question. To mention a few, he is a recipient of the Distinguished Service Award of the American Dental Association and the Award of Excellence from the American College of Dentists. He has been recognized with two honorary degrees and has been identified as the Distinguished Alumnus of two universities. In the centennial year of the American Dental Association, Dr. Robinson was named "Dentist of the Century" by the Maryland State Dental Association.

Forty-four years ago a colleague, Dr. Timothy O. Heatwole, wrote, "Dean J. Ben Robinson is the possessor of an active and well organized mind; grasps with avidity the salient points in a discussion, is a ready and effective debater; is unshakable in adherence to right principles as he views them; strong in abhorence of low unethical or immoral acts, whether social or professional; . . . and in all ways personally exemplifies the fine points of a good citizen in stressing the cardinal principle of honesty as the basis of success in life." Very few present today knew Dr. Robinson at the time these words were written, but all of us respect the characterization by Dr. Heatwole because we know now how correct he was.

Dr. Robinson has always possessed the unique ability of inspiring others to follow his high standards and ideals. For those who held different views, he was very courteous and tolerant, yet quite persuasive. If a principle of ethics, morality or integrity were involved, he was firm and unyielding in his support of the highest of standards. In all instances, he commanded respect and admiration from his colleagues and associates and from those who may have held opposing views. Typical of student reaction was a statement in the 1938 *Mirror,* which is the yearbook of the Baltimore College of Dental Surgery Dental School, University of Maryland. I quote, "We shall always remember Dr. Robinson for his

inspirational teaching, his fine character and solid personality, his leadership and his effective cooperation with students and faculty. We shall always appreciate what he has meant to our school and to dentistry in all its phases. We feel that we have been very fortunate in knowing Dr. Robinson both as a teacher and a friend. We know that to follow his ideals will mean our giving the best we know how in the pursuit of our profession." I wish that all educators could elicit such complimentary remarks from their students.

Once when Dr. Robinson was asked to prepare a message, from the dean to students, he submitted a brief philosophical quotation by Herbert Spencer. "Any arrangements which in any considerable degree prevent superiority from profiting by the rewards of superiority or shield inferiority from the evil it entails — any arrangements which tend to make it as well to be inferior as to be superior are arrangements diametrically opposed to the progress of organization and the reaching of a higher life." The selection of such a statement and the philosophy it represents typify the breadth of knowledge and the depth of concern which Dr. Robinson always upheld. He wanted his students to think and to continually search for truths in life and in the profession.

Two states have claimed Dr. Robinson during the majority of his life, West Virginia and Maryland. Both are honored in this claim because neither state could have had a more loyal citizen. Although most of his adult life was spent in Maryland, he always spoke proudly of his native West Virginia and boldly defended it against unwarranted criticism, oral or written. The things that he has done, the life that he has lived and the person that he has been have brought honor to the state that he loves so much.

In a life time of active service the average man faces many problems, finds solutions and arrives at appropriate decisions. The unusual and above-average man constantly seeks ways by which he can improve on the existing "state of affairs." He takes advantage of the past to guide him in his search for new and better ways of serving his God and his fellowmen. His knowledge, wisdom, judgment, initiative and perseverance make him a pillar of strength for society and a leader among men. Dr. J. Ben Robinson fills this description, and for him and his contributions to dentistry, the profession and society can be eternally proud.

As a personal note, I have felt a close relationship to Dr. Robinson. He was my teacher, my dean, a colleague in dental education, an adviser, a counselor, and a model for my

professional aspirations. Many have tried, but none have succeeded in emulating his professional life. The recognition today is another of many recognitions that perpetuate the stature of this great man.

A very favorite poem of mine and one that, over the years, has been an inspiration to me is "The Bridge Builder" by Will Allen Dromgoole. Many of you know the poem, but I would like for you to hear it again today.

An old man, going a lone highway,
Came at the evening, cold and gray,
To a chasm, vast and deep and wide,
Through which was flowing a sullen tide.
The old man crossed in the twilight dim —
That sullen stream had no fears for him;
But he turned, when he reached the other side,
And built a bridge to span the tide.

"Old man," said a fellow pilgrim near,
"You are wasting strength in building here.
Your journey will end with the ending day;
You never again must pass this way.
You have crossed the chasm, deep and wide,
Why build you the bridge at the eventide?"

The builder lifted his old grey head.
"Good friend, in the path I have come," he said,
"There followeth after me today
A youth whose feet must pass this way.
This chasm that has been naught to me
To that fair-haired youth may a pitfall be.
He, too, must cross in the twilight dim;
Good friend, I am building the bridge for *him*."

Dr. Robinson, you have indeed been a "bridge builder," and on behalf of those who have followed and of the many people for whom I speak today, I want to say thank you.

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Responsibilities of Educators

STANLEY P. HAZEN, D.D.S., M.S.

Historically, in this country, dentistry was learned through serving an apprenticeship to a dentist. (It should be noted that even today, this approach still exists in less affluent areas of the world.) Subsequently, in the 1800s numerous proprietary schools were started to train dentists. At that time, uniform review processes of curriculum, faculties, facilities or even evaluation of the product did not exist. However, concerned members of the dental profession were aware of the quacks in their midst that were products of inadequate training and worked successfully to get state laws passed that encouraged licensure to practice dentistry. Alabama was the first state to enact such legislation about the mid-1860s and several other states soon followed its lead. Somewhat later, state practice acts were passed that made licensure mandatory to practice dentistry. Such actions initiated by the practicing profession caused the demise of many proprietary schools that were not providing an adequate education.[1] Further, it is interesting to note that the organized evaluation of educational programs in dental schools was not undertaken until 1941 following the authorization for the formation of the Council on Dental Education by the American Dental Association in 1938.[2]

Obviously, the dental profession existed as licensed practitioners long before actions were taken to evaluate the educational process. Noteworthy in this historical perspective is the concern of the profession for policing itself. Early in its history the profession initiated actions that led to mandatory licensure that affected the practicing dentist as well as the "educational" institutions of the time. We share a history of a concerned

Presented at the conference of Dental Examiners and Dental Educators, Chicago, Ill., February 13-14, 1976. *Dr. Hazen is dean of the School of Dental Medicine, Southern Illinois University at Edwardsville.*

profession that goes back more than 150 years in this country. This concern is for the educational process as well as for the practicing constituents that provide care for our population — the educators and the examiners as it were. I am certain that if we looked back at the recorded proceedings of meetings of the 1860s, we would probably find discussions on problems similar to those on this agenda.

SELECTION OF STUDENTS

But now the responsibilities of educators! First, an important activity of educators that is often ignored in these discussions is the selection of a relatively small group of people from a large pool of applicants to be the subjects of the process of dental education. The selection of students is a time-consuming activity conducted by concerned faculty. Most entering dental students now have at least three years of college education prior to their entrance into dental school.[3] As applicants, they are judged on a variety of indicators such as grade point averages, dental aptitude test scores, recommendations, interviews, motivations, geographic distribution, etc. Other selective mechanisms may be applied, but of those listed, each is probably used with a varying emphasis in the selection process at each school. Efforts are being made to improve this process, with the goal of achieving greater objectivity and predictability in the selection of students.

The greatest responsibility educators face is taking these selected students into an environment that demands, in a few short years, the completion of a course of study that will prepare them for entrance into the profession and practice of dentistry. The transition that must occur from the entering student to the graduate who has gained knowledge, clinical skills, a level of professional judgment, an appreciation of the role of the dentist in the community, a concern for the oral health of all people, and a level of professional maturity is when you think about it, an awesome happening that we accept rather routinely.

CURRICULUM DEVELOPMENT

Central to this responsibility is the development of a curriculum by educators that meets the guidelines of the Commission on Accreditation of the American Dental Association and is effectively applied in the educational process. The guidelines as such (Requirements and Guidelines for Dental Education Programs) are quite broad and allow educators the necessary

flexibility so that schools can develop programs that provide a rather uniform base, but that can also reflect faculties' individualities so schools do not have the aura of sameness that might otherwise occur.

The accreditation process does provide a means of maintaining a prescribed level of educational content in a curriculum and thus maintain a high standard for dental education across the country. This is a good example of the profession working to review itself in its efforts to provide the best dentistry for our population.

In the development of a dental school curriculum it must be appreciated that the body of knowledge to be presented for student consumption has increased markedly over these 150 years, but especially so in the last 20 years. Technical advances have occurred, such as the invention of the high speed handpiece and the development of new restorative materials, but even more significant to curricula has been the rapid growth of dental research with the resulting increase of biologically significant material to be incorporated into courses. But this is not all, for in this time an awareness of the dentist's working environment and social and community responsibilities have seen curriculum time being allocated for auxiliary utilization and management, behavioral sciences and community dentistry. Without going into greater detail, just let me state that educators are faced with the fact that the person coming into the dental school must be exposed to a curriculum in which competency will provide the basis for not only entering the dental profession, but also for the individual's continued growth in dentistry throughout his professional lifetime.

AN EDUCATIONAL ENVIRONMENT

The educator must strive to create and maintain an environment in the dental school that is conducive to learning. The stimulation of unsatisfied curiosities of students and faculty must be encouraged. This question-raising, answer-seeking, research attitude should encourage graduates to continue such behavior patterns throughout their careers. We are well aware of the many unanswered problems that exist in dentistry, both in basic and applied sciences. Many things we teach are still not supported by research evidence. For example, as a periodontist, I teach various surgical procedures for the elimination of periodontal pockets. What well controlled studies provide evidence that this surgery,

per se, is an effective means of treating periodontal diseases? Few if any! I am certain that each of us could develop a list of such examples to support the fact that even today we have many questions, but relatively few good research supported answers.

As clinicians dealing with problems centered in our patients, we must constantly make decisions in providing the best therapy possible. These clinical judgments should be based on knowledge and the application of appropriate skills. The dental student must always function in such an inquiring environment if he is to become the professional that strives to improve dentistry and its role in the health care of our population. This is the core of professionalism, the ability to discuss mutual problems with your peers, and to seek answers for those problems you are unable to resolve. In other words, continuing the learning process following the attainment of the professional degree. Similarly, the educational environment must provide some perspective on the breadth of opportunities in our profession for the graduate. A spectrum of career choices exists from the solo practice of general dentistry in a small community, to group practices, to areas of advanced education, to research opportunities and even to seeking careers as educators, among others.

STUDENT EVALUATION

The curriculum developed and the student involved in the educational process leads to yet another responsibility of educators, that is one of student evaluation. The faculty of a school has the opportunity to observe the prospective dentist for a relatively long period of time through various didactic, laboratory and clinical experiences. Evaluation mechanisms have improved, especially in clinical courses, with increased objectivity being attained in this process. Today, the student is evaluated in a more objective way than ever before in dental education. Educators must be sure that standards of evaluation are such that the graduate will be competent to enter practice.

CONTINUING EDUCATION

Educators readily accept the responsibility for predoctoral programs and for advanced education programs that lead to certificates of specialization or additional degrees. These latter programs are easily accommodated into the dental school and tend to reinforce and even stimulate the predoctoral program.

However, as educators, we state that our graduate should be a true professional, one who is a continual learner. Educators must then be responsible for developing the dental school as a regional resource for a lifetime of continuing education. Greater attention must be given to this educational area so that courses are offered within an educational framework that assumes some direction and continuity to programs that are primarily for the practicing dentist and/or his/her auxiliaries. Few schools have more than the usual smattering of courses listed for the "season," with a few "stars" on the program to attract participants.

I have no particular unique formula at this time, but both basic and applied sciences must be included in such programs to provide not only the usual "how to" courses, but also the "why to" basics that keep nurturing the professional attitude in one's patient care activities. The increase in mandatory continuing education could lead to the continued promulgation of numerous unrelated continuing education courses available primarily tc fulfill attendance requirements for licensure. Hopefully, such directions will not satisfy our profession and educators will be encouraged to develop well organized, well designed courses that establish educational goals and objectives to serve the practicing professional. Such courses should make use of the various instructional modalities available today, including self-instructional programs and facilities. The review of continuing education programs as a part of a school's accreditation process should be helpful in achieving these directions.

RESEARCH

Research is basic to academics. The educator must, as part of his academic development and his individual enthusiasms, contribute to our body of knowledge. A school's research program should cover the spectrum from basic research to areas of applied research. A profession must be open to the study of all phases of its concerns. The knowledge we have today, the procedures we do today, the delivery systems we have today may all be enhanced through the results of well conducted research. The profession must review research findings, evaluate them carefully, and apply those that will lead to better health care of our population.

INTELLIGENT COMMUNICATION

Finally, there is a joint responsibility of educators and examiners to maintain productive communication. Intelligent actions should

be taken to respond to the health needs of our population as well as maintaining the high standards of our profession. How will we respond to the increased demands for health care by our population? How will we respond to members of our profession who are obviously unhappy with present day licensure processes? How will we respond to our educational processes to the continual need for including an ever expanding body of knowledge in the curriculum? Today, educators are told that our graduates are not as competent as those in the past. What standards of comparison are being used? What perspective is being taken on what a graduate should be today as compared to that of the past?

INTERACTION BETWEEN EDUCATORS AND EXAMINERS

There must be constructive interaction between educators and examiners. I am not opposed to the evaluation of our educational product by the practicing profession. Without going into a lengthy diatribe concerning the present process, I suggest we seriously consider a suggestion made by Dr. Collins in which the evaluation process by the dental examiners would become a part of the pre-graduation process. This would create a closer interaction between educators and examiners, with the examiners having a better opportunity to evaluate a broader base of the potential graduate and the educators having a closer tie to the licensure process. This approach truly reflects that historical concern of an entire profession to "police" itself for the good of the population.

SUMMARY

In summary then, the responsibilities of educators understandably cover a broad spectrum:

1. The selection of students who will enter the educational program that will upon graduation lead to their entrance into the profession of dentistry.
2. The development and evaluation of a curriculum that will prepare individuals for entrance into the practice of dentistry and provide a base for their continued growth in that profession.
3. The maintenance of an educational environment that encourages inquiring attitudes in one's professional career.
4. The evaluation of students in an objective manner that will provide information as to the student's progress through the various stages of curriculum.

5. The development of continuing education programs that will be a positive factor in the continued learning experience of the professional.
6. The conduct of research directed toward improved health care for people.
7. The continued interaction with the practicing profession to provide the basis for a common understanding of professional goals.

Finally, we are members of a profession that historically had common goals and we should continue working together in our educational and evaluative activities to insure the best dental care possible to our population.

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FORMULA FOR SUCCESS

To laugh often and much; to win the respect of intelligent people and the affection of children; to earn the appreciation of honest critics and endure the betrayal of false friends; to appreciate beauty, to find the best in others; to leave the world a bit better, whether by a healthy child, a garden patch or a redeemed social condition; to know even one life has breathed easier because you lived. This is to have succeeded.

Ralph Waldo Emerson

Should Dental Students Be Granted Licensure Automatically Upon Graduation?

— A Dental Educator's View

ANDREW D. DIXON, D.D.S.

I must confess that when I was given this assignment I had mixed feelings about it, for how can one speak to this topic without talking or appearing to take sides on the matter, leaping to the defense of dental education on the one hand, or appearing to confront the state board examiners assembled here with concepts that may represent to them an anathema in the present time period. However, as I continued to consider the topic for discussion, I renewed my realization that here is another significant challenge to our profession, which inevitably depends on the collective efforts of educators and the boards for the production of essential dental manpower sufficient to deliver primary dental care in the next several decades.

As I warmed to my task, it became increasingly clear that in these days of consumerism and the consumer advocate, continual debate on reciprocity, national or federal licensure, discussion of the potential impact and validity of institutional licensure, the import of the issues of health manpower distribution and a seeming relentless move towards a national health insurance system, it is surely both relevant and prudent to give close inspection to our current mechanisms for permitting the practice of dentistry by university graduates.

Speaking a number of years ago at an American Dental Association symposium on programs affecting relations between the dental profession and the dental laboratory group, William Frederick [1] reviewed the purpose of licensure in a discussion of

Presented at the Western Conference of Dental Examiners and Dental School Deans, Flagstaff, Arizona, July 25, 1975. *Dr. Dixon is dean of the School of Dentistry, University of California at Los Angeles.*

the history and philosophy of occupational licensing legislation in the United States. There could be no doubt, he said, that licensing protects the interests of a profession. It aids in the establishment of professional standards, helps to keep incompetents out of the field, and does much to enforce ethical codes of practice. Additional legitimate professional goals are the solidification of the profession, and of course, the protection of the interests of the general public. The latter is the legal basis for licensure, for it is only justified if it fulfills a mission to protect the health, safety and welfare of the general public.

Although there is growing acceptance that the present, fragmented licensing mechanism is less than adequate for a health services delivery system which is rapidly becoming more complex,[2] there is as yet no concensus as to how it should be restructured or even replaced. We hear more mention of institutional licensure as befitting the integrated nature of the majority of health services delivery today, but the implementation of any unified scheme of licensure is difficult at the present time and would generate serious conflict. It would deny emerging professions the status of individual licensure and would threaten the professional identity of presently licensed categories. A recent national conference on the changing role of dental auxiliaries, which included representation from 11 dental organizations, considered the concept of institutional licensure. The concept was unanimously rejected as a proper course of action in the United States at this time.[3]

Recently, Di Biaggio[4] examined federal licensure as a viable alternative and considered the arguments which are usually put forward in support of it, namely, correction of the maldistribution of dentists nationally, the contention that inequities in various state board examinations would be alleviated and that the scope and standards of the functions of auxiliary personnel could be defined more effectively. Each of these arguments can be disputed and it is not difficult to reach the conclusion that federal licensure is not necessary for dentistry at this time. Such a system is unacceptable on several counts, most particularly the undesirable features of additional federal control of dental practice.

It is appropriate then to maintain our focus on the state licensing system, which ensures the autonomy of the profession and attention to the more precise dental care needs of a state or region.

A key question which confronts all of us in dental education and licensing bodies, particularly in the context of this topic, is the need to maintain flexibility in dental curricula, which leads to the often expressed belief that a moderate separation between dental education and the state licensing authority is desirable. This must surely be balanced by the necessity for dental examiners to appreciate the objectives which had been set forth by the schools for given groups of graduates who are licensure candidates. The Commission on Accreditation of Dental Education Programs [5] recognizes that no curriculum has enduring value and stipulates that "the program of each dental school would be judged finally not by its conformity to type nor by predetermined measurements, but rather in terms of the achievement of its own stated aims and objectives which should lead to a graduate qualified to practice dentistry." The Commission further states that the curriculum should be flexible and should be based on appreciation of dentistry as a health service, with adjustments made to advances in knowledge, the results of curriculum experimentation, the development of institutional individuality, and the achievement of excellence without the establishment of uniformity. As dental educators, we are charged to incorporate the latest knowledge, delete that which is no longer useful, and seek to measure the reliability of the quality of our teaching programs through effective evaluation systems for adequacy of student performance. The regulations for dental practice acts make similar stipulations.

One does not have to look far in the literature to find examples of rather different viewpoints on state board examinations expressed by students, educators, dental examiners and general practitioners.

VARIOUS VIEWPOINTS

A dental student view [6] contends that state and regional board clinical examinations are no longer relevant to the nature of the dental profession. Familiar claims are put forward to support this posture including the belief that the clinical examinations are subjective tests which fail to determine true professional ability because of the artificial circumstances, the level of anxiety imposed on those taking the test, and the critical judgment of clinical competence based on a single experience. The advantage that dental school faculty have for evaluating the student's clinical performance over an extended period of time is emphasized,

although one must observe that dental school promotion committees often have difficulty in reaching clearcut decisions about competence, despite these opportunities.

Although this view is shared by a number of dental faculty who favor the concept that the dental school should award the DDS degree and determine the right to licensure, so that the state board of examiners may concentrate on surveillance of the practicing dentist, many dental educators defend the state board system [7] and maintain that the acquisition of a dental diploma is not total evidence of the ability to practice dentistry. The creditable job done by dental examiners in formulating tests within extremely limited time frames is matched with the necessity for admissions committees to pay proper attention to the moral standards and interest in people by dental school applicants.

ACCREDITATION OF SCHOOLS NOT THE ANSWER

Many dental examiners have expressed their disappointment with the degree of skill and judgment shown by some candidates. Alpert,[8] at the 1972 Conference of Dental Examiners and Dental Educators, reminds us that the dental school accreditation process makes little or no attempt to evaluate students with regard to clinical skills, for the existence of a periodic evaluation system for accreditation is used often as an argument for the qualification of dental schools to certify eligibility for licensure. Alpert suggests that boards, schools and the Commission on Dental Education have a great deal to gain from a close working relationship and that there is considerable mutual benefit to be derived from the involvement of faculty during the board examinations. Speaking of the effectiveness of state and regional boards and clinical performance tests for licensure candidates, Collins [9] reiterated the lack of clinical judgment and skill shown by failing candidates and brings us back to the fact that state and regional examinations as presently constructed do protect the public from incompetents. He suggested that a further advantage of the Board examination system is the constant stimulus and motivation for dental schools, similar to that which results from the accreditation process for dental educational programs.

General practitioners appear to support the present state board licensing mechanism for the most part, believing in the necessity for external review of the product of our dental schools. Whisenand [10] considers that the dental examiners, as practicing

dentists, can assess not only ability to carry out technical procedures but also the potential of the candidates to adapt to situations outside the protected environment of the academic world. It must be said, however, that many members of our dental faculties are actively involved in practice, either privately in connection with their part-time academic appointments or in faculty group practices in the case of full-time faculty. Presumably, they also have the necessary expertise to make judgments of this kind. Perhaps the criticism that some students are not adequately prepared in the clinical areas could be overcome by delaying the state board examinations for one year after the candidate has completed his or her degree.[11] If the amount of the material in present day curricula makes it difficult to bring students to the level of technical skills to which dental examiners were accustomed in previous years, the additional year of experience would permit students to become more confident and develop the capability to work rapidly under pressure. Such a system can be debated but it would seem difficult to implement for a variety of reasons.

POSSIBLE ALTERNATIVES

It seems to me that there are some alternatives to the present system of state or regional examining boards which can be considered:

—First, an even closer relationship of the board to the dental schools could be developed, so that they may work together to constantly improve the clinical competence of the graduates.

—Second, the schools could act as the instrument for determining licensing eligibility in addition to granting the dental diploma.

—Third, boards of examiners could include greater representation from the dental schools.

—Fourth, the schools could develop an external examiner system, in addition to the state board examination mechanism.

THE BRITISH COUNTERPART

If you will permit me, I would like to make a few comments about another system in another country with which I have experience as an illustration that there are other ways of approaching the licensure question. In the United Kingdom, the General Dental Council[12] is the counterpart of the State or Regional Board. The

Dentist's Act of 1957 defined the Council as a body "whose general concern it shall be to promote high standards of professional education and professional conduct among dentists, and who shall in particular perform the functions assigned to them by this Act." Obviously, this is a similar definition to that for state or regional boards. The primary function of the General Dental Council is to maintain a minimum level of professional education for admission of graduates to the Dental Register and this education must be flexible to allow for the advance of professional knowledge and the development of public opinion. Again, you can see the similarity of this statement to the comments on curriculum set out by the Commission on Accreditation of Dental Education Programs in the United States. The responsibility of the General Dental Council for professional education includes the visitation of the university dental schools and examinations and the preparation in light of the visitor's reports of "recommendations concerning the dental curriculum." This of course, is the function of the Commission on Dental Education in this country.

Additional functions of the General Dental Council include preventing people practicing dentistry who are not registered to practice, thus emphasizing the policing role of the Council rather than the primary certification of graduates as competent to practice dentistry.

The membership of the General Dental Council which oversees the educational activity of 21 dental schools in the United Kingdom and the Republic of Ireland is an interesting contrast to the structure of a typical state board of dental examiners. There are 11 members elected by the dental profession, 20 members nominated by the universities, and seven members are chosen by the Government. I describe the membership of the Council only to make the point that a group of highly competent dental practitioners and dental educators can function together rather like the Commission on Dental Education, leaving the question of licensure eligibility largely for the Schools of Dentistry to determine.

I believe an external examiner system organized between schools in a single state, or involving schools in other states, has a good deal of merit. It is being done to a limited extent but could be much further developed. Such a system, which involves respected faculty members from other schools visiting the institution for the purpose of direct involvement in final examinations prior to graduation, would have the effect of

elevating academic standards, for any course chairman always wants his students to perform as well or better than those of his counterpart from another institution. It provides a peer review system where there can be unlimited exchange of information with constructive criticisms for improvement in specific areas of clinical performance. Being independent from the licensure examination, the students also can obtain feedback on their performance and so better prepare themselves for the licensure examinations and subsequent practice. The external examiner system works extremely well in the United Kingdom, and as one who has been involved in it both as a student and an examiner, I can give you assurance that the system there has much to commend it. Of course it is not the only way to accomplish our goals, but a valid mechanism to test further in our setting and one which may have benefits for our educational process.

AUTOMATIC LICENSURE NOT VALID

It seems to me that the concept that today's dental students should be licensed automatically upon graduation is not valid under present circumstances. Some system of checks and balances is required, whether it be from an external examiner system involving faculty members from other schools, an external examiner system involving the state or regional Boards, or some combination of the two. Certainly, graduates cannot be licensed automatically until clinical competence evaluation criteria are fully developed and enforceable, something which is still a shortcoming in many dental school curricula. We must strive to improve the current system by whatever means are at our disposal. Good communication and teamwork is quite indispensable in a dental school and it is to be hoped that this will extend over to the relationship between the boards and the dental schools, for the attainment of the goal that we all seek, that is, the training of future dentists who possess a high level of competence in the clinical skills essential to the delivery of dental health care.

Dental educators must face the reality, that as long as there is any reluctance on the part of dental faculties and administration to dismiss students for just academic cause, that an external, strictly objective board of examiners is essential to assist in the maintenance of proper standards within the profession. The federal pressures on the health professions schools to maintain student enrollments and therefore an important segment of the fiscal support for the school; the inherent hesitancy on the part of

both students and faculty to admit that some individuals are not well-suited for the practice of dentistry, despite careful selection procedures; the current tendency for enrolled students to regard graduation as an entitlement — supported by litigation, if necessary, all contribute to the graduation of some students who would be better advised to seek other ways of making a contribution to society, as soon as their clinical deficiencies or lack of effectiveness is truly recognized. Such a modus operandi is fair to the students, to the faculty, to the state or regional boards and most of all to the recipients of the health service that we provide.

Perhaps this is too strong a concluding statement, but I believe that the role of a devil's advocate and some straight talk is appropriate on this occasion. My intention is only to open the avenues for discussion as I see them, and by stimulating your reactions, I am confident we can make progress. For sure, we are all in this together — graduates, dental faculties and Boards of Dental Examiners — and our concerted efforts are mandatory if we are to achieve our common goals.

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Should Dental Students Be Granted Licensure Automatically Upon Graduation?

— A Dental Examiner's View

HERBERT K. YEE, D.D.S.

In assessing this subject, we must first look to the respective responsibilities as they are defined for an educator and for an examiner. An educator is one who educates — a teacher. An examiner is one who tests for competency. Traditionally, the issuance of a license attests a reasonable assurance to the public that the license is capable of providing quality dental care. If a dental license to practice was to be granted automatically upon graduation, would not the educator be passing judgment upon the product which he has helped to produce as well as passing judgment on his own ability to teach?

Over the years, various alternatives to the conventional licensure examination have attracted attention. Not long ago the merits of including a clinical examination as a phase of the National Board was considered. Suggestion has been made that the upper ten percent of a graduating class be granted licensure without examination. These and other alternatives to the conventional examination, all worthy of consideration, have been thoughtfully reviewed but for one reason or another have been rejected.

Statements have been made to the effect that there has been enough progress in dental education to de-emphasize the importance of the "examiner concept." We hear that dental education has reached a point of sophistication which no longer requires an evaluation of the quality of the educational program through examination of the graduate.

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IS DENTAL EDUCATION UNIFORM?

I will be the first to agree that considerable progress has been made in dental education. However, I submit that to accept the premise that dental students should be granted licensure automatically upon graduation, we must then necessarily agree that dental education is everywhere at the same level. Is this true? Unfortunately, the answer is a resounding "no." Because of the continual growth of the body of knowledge which constitutes dental science, we find various patterns of dental education evolving with differing objectives. In some educational programs we find the emphasis placed on various subjects of the curriculum to the end that the graduate is well versed in dental research, dental health or dental education, per se, as contrasted to a graduate who is educated to function as a general practitioner.

It has been suggested that the dental educator might be the better judge of the competence of the graduate since he has been with him for a longer period of time than the two or three days constituting the licensure practical examination. As a result, the educator is allegedly in a better position to assess the competence of the graduate than is the examiner.

Here I will agree that the educator should be well aware of both the deficiencies of the student graduate as well as his outstanding abilities. However, if the educator has done his job well then the student graduate should have nothing to fear, in fact should welcome the opportunity, to demonstrate a basic standard of excellence required in an examination before an impartial examiner.

The nature of our educational system is such that a dental degree issued by an approved institution certifies that the graduate has completed a prescribed course of study in dentistry and is therefore qualified to take an examination for licensure. To all accounts he is accomplished in the art and science of dentistry and has the skill, knowledge and competence to render dental services to the public. What, however, on this point, does a recapitulation of California examination results disclose?

CALIFORNIA EXAMINATION RESULTS

Presently, and for a number of years past, applicants appearing for examination comprise current graduates and recent graduates one or two years out of dental school. Surprising as it may seem, it

is the exception rather than the rule to find many older doctors taking the California board.

In making our computations, each applicant is counted as a unit of one each time he appears for examination. Therefore, our total of applicants examined includes applicants that have had to repeat the examination by virtue of a previous failure.

Excluding foreign-trained applicants, during 1974 the Board examined 1,210 applicants for licensure as a dentist. Of this total, 43 percent failed the examination.

Included in the 1,210 total were 643 applicants that graduated from our five California dental schools during 1974. Regretably, our own California graduates showed a failure rate of 19 percent. As late as ten years ago the failure rate of our California graduates ran about three percent per year.

Does the increase in failure rate indicate a deterioration in our dental education system? Or, on the other hand, is the over-all current failure rate indicative of the results of the general attitude of resistance to authority which infiltrated our educational system during the last decade? I wish I had the answers.

I do suggest however, that on the basis of the high failure rate of the California Board, that the concept of granting licensure to dental students automatically upon graduation is not justified nor in the best interest of the public.

I do not claim that the licensure examination requirements as now constituted are the ultimate in examinations. It may well be that the time has arrived to concentrate on a re-evaluation of examination requirements.

CONCLUSION

The right to question, to identify problems, search for answers and reach intelligent and logical conclusions has long been our way of life. It is good that we have the opportunity on this day to discuss this important question. The truth and fact of the issue remains, at least in my opinion, that insufficient evidence has been forthcoming which would substantiate that the public would be better served by granting licensure automatically to dental students upon graduation.

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What Should Boards Do with Dentists Whose Competence is Questioned Through Peer Review or Whose Performance has been Judged Marginal?

— A Dental Educator's View

BEN W. PAVONE, D.D.S.

A major function of Boards of Dental Examiners is to protect the welfare of the public by assuring that graduates of accredited dental schools who apply for state licensure meet the minimum standards for dental practice by successfully passing theoretical, laboratory or clinical examinations. Once licensed, it is the practitioner's responsibility to perform in accordance with "acceptable standards," and the Board's responsibility to see that they do so through enforcement of the Dental Practice Act and rules and regulations pertaining thereto.

During the past few years there has been an increasing interest in professional standards review and in peer review of professional competence. In the state of California, for example, a task force under the auspices of the California State Dental Association has been charged with the responsibility of recommending guidelines for peer review and for maintenance of professional standards. In addition, almost all local dental societies have established peer review committees and ethics committees which function and deal with a variety of problems, issues, responsibilities, and regulations pertaining to dental practice.

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In order to respond to the question addressed to this panel, we must first assume that Boards have the authority, the desire, and are willing to accept the risks involved in dealing with problems of "marginal performance" and "professional misconduct." The legality of disciplinary action, due process, and individuals' rights and interpretation of rules and regulations are considerations of major importance.

Using the Dental Practice Act of the State of California as an example, one part of the Act that may apply is Article 4, Section 1670, which states

> Any dentist may have his license revoked or suspended or be reprimanded or be placed on probation by the Board for ... gross ignorance or inefficiency in his profession, or for any other cause applicable to the licentiate provided in this chapter .[1]

DEFINITION AND INTERPRETATION OF TERMS

How do we define "gross ignorance or inefficiency in the profession" or "marginal performance"? What are the standards with which "marginal performance" is compared? What is incompetence? Who is competent to judge "marginal performance"? What is minimal acceptable performance? What type of investigative format is used to determine substandard performance? Is the accused advised and assured of due process? How are deficiencies documented by peer review committees? How do these committees determine and indicate a degree of inadequacy? What are the guidelines to be used by these committees in advising educators of the areas of inadequacy and the educational needs of the accused?

With these questions behind us, and probably unanswered for the moment, let us now consider the question addressed to the essayist, *i.e.*, "what should boards do with dentists whose competence is questioned through peer review or whose performance has been judged as "marginal"?

AN EDUCATORS RESPONSE

For the purposes of this discussion we will assume that something less than revocation of license is to be considered as appropriate and reasonable disciplinary action for "marginal performance." It is also assumed that as a condition of disciplinary action the person judged will be required to correct the professional performance deficiency to the satisfaction of the Board. Consequently, from an educator's point of view, I would like

to propose a program for re-education, re-training and re-evaluation of those dentists who have been judged as inadequate or incompetent practitioners.

It is not an unrealistic supposition to predict that more and more states will require continuing education as a condition for maintenance of licensure.[2] By September 1974, six states had instituted continuing education requirements for relicensure and 28 more are considering such a requirement.[3] Furthermore, we can expect that the American Dental Association will devote increasing attention to the need and requirements of continuing education as a mandatory component of the entire professional educational enterprise. Illustrative of their concern is the action of the House of Delegates of the American Dental Association in November 1974, when they approved the *Guidelines for Continuing Dental Education.*[4]

A PROPOSED PROGRAM FOR RE-EDUCATION AND RE-TRAINING

I would propose the design and development of an adequately structured continuing education program organized and conducted by a consortium of educators, board members and the profession. The program should include all of the components of a quality continuing education program such as self-instruction, programmed instruction, laboratory training, clinical participation, lectures, seminars, demonstrations, and appropriate evaluation.

Theoretical re-education should include the use of National Board Test examinations since these tests are standardized nationally, are continuously evaluated for validity and reliability, and are easily administered and graded. Each board or review committee could determine its own minimal acceptable achievement level.

Laboratory training should precede and be prerequisite to clinical participation. This conforms with the acceptable and reliable requirements of almost all dental education programs.

Since substandard performance deals primarily with clinical skills, the most important component of the re-training program involves clinical participation. Retraining those judged incompetent or marginal performers in clinical skills is also the most difficult and frustrating aspect of the entire re-educational program. I have a premonition that neither the educators nor boards nor professional associations have a profound appetite for

conducting this portion of the program. Accordingly, this is the most important justification for proposing an independently organized and administered consortium.

CONDITIONS FOR CORRECTING PERFORMANCE DEFICIENCIES

It is suggested that primary or minor offenders be given a written reprimand by the Board or appropriate committee detailing the deficiencies. Such documentation should include a mandatory recommendation to improve performance through both individual study and formal continuing education. A number of hours of didactic and clinical training should be specified including areas requiring improvement. A time limit should be established which should be included in the written notice. The individual should be required to notify the Board when he has completed the required number of hours of continuing education and to submit a report of the courses taken, where they have been taken, and what he has learned. If the individual continues to perform at a substandard level then further disciplinary action, such as probation or suspension should be considered. The re-training and re-education program should be performed under the direction and supervision of the consortium, which will notify the Board of the individual's progress in completing the terms of his probation or suspension. Modification or extension of disciplinary action should be considered continuously.

FINANCIAL CONSIDERATIONS

This proposal does not consider the very substantial problems of faculty, facilities, and financial support. The facilities of dental schools are already critically overcrowded and first priority must be allocated for the training of predoctoral and specialty students. A remedial program, such as that proposed herein, is taught on a one to one basis at an indeterminate achievement level. The costs of such concentrated instruction, which most likely would be borne by the participant, would be extremely large. The consortium, in addition, would be required to develop its own educational resources, which would be costly, and usage could neither be estimated nor guaranteed.

CONTINUING EDUCATIONAL REQUIREMENTS

Although all of the dental schools in the West currently conduct adequate continuing education programs, they only certify hours

of attendance, not degree of proficiency. The continuing education requirement for maintenance of licensure in the six states that have such a requirement specify that a certain number of hours of instruction must be taken within a prescribed period of time. No achievement level is specified. Consequently, most dental schools can easily provide well balanced, broadly based, and financially solvent continuing education programs to meet attendance requirements. However, they would anticipate insurmountable problems in conducting participation courses designed to guarantee a specific level of performance for other than their own regularly registered students.

PERFORMANCE EVALUATION

Dental schools have a distinct advantage in evaluating the professional competency of its students. A large number of faculty members with a variety of backgrounds evaluate students regularly in regard to theory, laboratory, and clinical performance over a period usually in excess of 4800 hours. Students are under constant supervision and are required to take and pass tests including school, National Board and State Licensure Examinations. It is generally accepted among the educators participating in this conference that the performance level of their graduates, at the time of graduation, most certainly exceeds that of practitioners who have been judged as incompetent by ethics or other review committees. What bothers educators most is the inability to identify those graduates who will perform at a level in practice lower than their achievement level in school.

Performance evaluation of those dentists who have completed re-education and re-training should be accomplished by the same review committees which originally judged the individual. These review committees have the responsibility of identifying "marginal performance" individuals, documenting the deficiencies and specifying the type of re-education and re-training needed. It follows that performance evaluation should also be conducted by these same review committees.

SUMMARY

From an educators point of view, there is a clear need for re-education, re-training and re-evaluation of dentists whose competence is questioned through peer review or other review procedures. Furthermore, there is a responsibility in the profession to allow practice privilege only to those professionals

who continue to perform at or above a minimally accepted performance level. To accomplish this requires the combined efforts of all segments of the profession including board members, educators, and representatives from professional associations. I am confident my colleagues in dental education will join with me in offering our services to resolve this perplexing educational problem.

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We live in deeds, not years, in thoughts, not breaths
In feelings, not figures on a dial.
We should count time by heartthrobs. He most lives
Who thinks most — feels the noblest — acts the best.

Philip James Bailey

How Can Learning Experiences in Continuing Dental Education Be Evaluated in Relation to Patient Benefit?

DAVID W. CHAMBERS, Ph.D.

The most significant recent development in continuing dental education is the advent of compulsory course attendance which has been the profession's response to pressures for quality of care assurance to the increasingly concerned public.[1] However politically effective such a response may prove to be, it is based on quite questionable assumptions about professional lifelong learning, about the relationships which exist between knowledge and the practice of dentistry, and about how to measure what is important. Mostly, we just have no facts at all which bear on this issue. What little has been found out suggests that the inevitable bureaucracy which will result from compulsory continuing education will much more likely impress politicians and pressure groups with the good intentions of the dental profession than it will stimulate any measurable change in the quality of care provided to patients.

Regulations aimed at controlling dentists or even at establishing minimum standards for continuing education courses are generally inconsistent with the facts to be described below. On the other hand, continuing education does have a vital role to play in influencing the quality practice of dentistry and standards and regulations which are designed to strengthen the programs proving such knowledge and skills should be encouraged.

As of January 1975, six states required a quota of hourly attendance at continuing education courses as a precondition for licensure renewal; eight other state dental associations have

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instituted such requirements for membership in the professional society. Similar requirements are being favorably considered by 44 states and associations, according to the ADA survey.[2] These responses seem to be prompted by four interrelated pressures. First is the federal and many state governments' concern with consumer protectionism and the natural response of a maturing bureaucracy to blossom forth with regulatory agencies. A similar second factor is the federal government's recent heavy involvement in financing both health care education and primary health care. Regardless of whether the accountability yardstick is used for measuring or for slapping wrists, it appears to be here to stay for a while. Third is the increase in the number and influence of third party carriers. Even if the entry of the government into this field could be postponed, almost ten percent of the patients who seek regular dental care do not currently pay on a fee-for-services basis. Finally, ours seems to be a time of questioning those in positions of authority. Dentists are being swept along by this trend and — although less hard pressed than physicians, lawyers, or presidents — they can find less protection from scrutiny by claiming professional status than during previous times.

The response of the profession to such pressures has been somewhat unusual, partly because of the weak assumption that continuing education will automatically improve the quality of dental care provided, but primarily because, outside of attempts to mollify seemingly inevitable federal encroachments, continuing education requirements appear to be the only response considered by the profession. The growing number of states which are mandating course attendance has already been mentioned. At the recently concluded Chicago conference on continuing dental education sponsored by the Academy of General Dentistry,[3] the item which generated the greatest agreement was that states should establish compulsory course attendance requirements. In San Francisco this April the AADS House of Delegates passed a resolution calling on the Commission on Accreditation of the ADA to establish minimal standards for continuing education courses.[4]

Perhaps politicians some years from now will be able to judge whether this political response to political pressures is in fact the proper course. Dental educators and researchers, and anyone who prefers decisions based on facts will reserve their opinions and actively investigate other alternatives.[5]

The evidence which gives some pause to the hope of regulating quality dental care through continuing education requirements

comes from three sources. First is a survey of all dentists in three widely differing component societies in Northern California which was conducted by Doug Hamilton, Anne Hanssen, and Dave Chambers.[6] Second is the analysis of pre and postcourse evaluation forms completed by clinicians and participants involved in recent continuing education courses at the University of the Pacific.[7] These forms were developed for use by members of the Western Directors of Continuing Dental Education and rather than measuring participants' factual knowledge, they are designed to get at motives for attending and how course attendance is related to the practice of dentistry. The third source of information is a study by Doug Hamilton, Larry McCormick, Dorothy Swendeman, and Dave Chambers[8] in which visits were made to dentists' offices before and after they attended a one-day course in four-handed, sit-down dentistry. Ratings of actual behavioral change were correlated with other, more traditional forms of evaluating continuing education courses. Naturally, these data are subject to the customary caveats regarding generalization of different groups of dentists taking different kinds of courses. But it bears emphasis that this research was not undertaken to find out how much dentists learn in continuing education, but rather *how they learn.* Very little substantive progress will be made in the field until we have a better understanding of the dynamics of motivation, practice limitations, selective learning, skill development, and "networks of professionalism" which influence lifelong learning among professionals.

HOW DENTISTS LEARN

In our survey of California dentists[6] it was found that practitioners express a preference for more technique courses applicable to general dentistry while they actually attend many courses on esoteric topics. There appear to be a core of members in each component who have the "continuing education habit." This rough 25 percent of the dentists attend formal courses every four to six months and are steady customers of certain continuing education providers. Because they are over-represented in samples of actual continuing education behavior, all the predictions will be distorted when we try to predict from this data base what will happen if everyone were required to attend. Respondents also listed the last two courses they had taken and indicated what, if anything, they had gained from the course.

Although new techniques (25%) and equipment (13%) and improved skills (6%) were often mentioned, the most customary response (38%) was "no change." Another 16 percent mentioned such unobservables as increased awareness and better rapport. There was no measurable behavior change in over half the courses mentioned. And what is more surprising was the finding that technique courses which are ostensibly designed to produce behavior change were no more likely to do so than courses on any other topic. What was predictive, however, of significant impact was the type of course sponsor. Courses offered by strong providers such as a long standing local foundation or by dental schools were significantly more apt to stimulate a lasting change in the office. One possible interpretation is that certain sponsors offer courses with a greater impact, but it is still only a 50:50 chance that anything taught in continuing education will result in a measurable change in how dentistry is practiced. Considering that these figures represent voluntary and mostly "dedicated" attenders, it seems very unsatisfactory to accept this conclusion and its implication that such dentists are wasting at least half of their continuing education dollars.

To get to the bottom of this problem, we must turn to a new source of information: the precourse evaluations completed by participants and clinicians at continuing education courses.[7] Summarizing hundreds of forms, it is possible to form a picture of the private practitioner's motives and those imputed to him by the educational establishment. While clinicians feel that the greatest factor in motivating course attendance is the new state law requiring 50 hours of credit, this is the third reason given by dentists — behind "professionalism" and far behind interest in the topic. The truth of the matter may lie somewhere between, but it is quite easy for policy planners to overestimate the influence of compulsory attendance laws such as California's. In that state, a dentist can satisfy all of his obligation by attending the annual state dental convention, or even by writing a letter pledging that he did so.

Further evidence of the discrepancy between instructors and dentists who attend concerns the participants' interests in the course material. Clinicians feel that the single major motive of participants (held by roughly one in three) is their commitment to making a change in their practice. But among private practitioners, this is the *least* likely alternative, chosen by only one in 20. More than all other motives combined (63%), they attend

courses because they are "generally interested in the topic." Being current is an important part of professionalism. From the dentist's point of view, a positive continuing education experience need not result in the kind of change one could easily measure in his office. The popularity of controversial courses such as nutrition counseling, acupuncture, and "N-2" may be based in their power to confirm dentists' suspicions about the inappropriateness of new techniques to their individual practices. In such a case, "no behavioral change" is the desired result.

There is one question on this precourse survey where participants and clinicians give very similar responses. When asked for the likely effects of the course, members of both groups mention performing new procedures or techniques first and then scatter their remaining responses among a wide range of other alternatives. What is of interest because of its apparent lack of importance is the accumulation of factual knowledge which could be measured in a test format. Less than 20 percent of the clinicians and the participants acknowledge the value of didactics in continuing education; and that should make anyone stop and think who is considering pre- and post-test evaluation as a means of judging the effectiveness of courses.

The final question on this form has proved to be more amusing than instructive. We ask both participants and clinicians to list the obstacles which will prevent dentists from practicing the way they were shown in the course. Those offering the instruction claim that their wisdom will not be fully implemented because it is "unfamiliar, uncomfortable, and contradicts old comfortable habits." Participants, on the other hand, are convinced that they "need more information and some demonstrations." Again, the truth is to be sought somewhere between, but we have reconfirmed Chambers' Third Law of Human Behavior: when cooperative efforts fall short of expectations, it's usually the other guy's fault. We have also discovered the dangers inherent in trying to second guess the value dentists place on continuing education. In particular, it is untenable to assume that there is a single motive such as behavior change that can be used as a foundation for evaluation.

In 1974, some of these hypotheses were tested in a research project[8] where behavioral change was measured by teams of raters who visited dentists' offices before and after a course in four-handed, sit-down dentistry. The results were gratifying to the extent that many offices showed appreciable changes in

technique, posture, equipment positioning, rapport, and even patient scheduling and office design. We also found that those dentists most likely to change could be more readily identified on the basis of *precourse motives* than by their later attitudes toward the course. Among other things, we asked the dentists to identify the three areas where they felt they had made the most progress, and here we found a puzzle. The dentists' ratings of their own changes were completely random with respect to the quite reliable behavioral measures of the four trained raters. One's secretary drawing numbers from a hat would be as likely to agree with the results as the dentists were. In one extreme case, the dentist felt that the course made him more comfortable, but he was most impressed with the new color scheme in his office since the course had shown him about "warm" and "cool" colors. He had managed to overlook the fact that he finally moved the triturator into the same room with his operatory. It was only after inspecting his books that we discovered that for the first time in his life (during his late forties) this dentist was doing quadrant dentistry.

Our first interpretation of this finding was that dentists have not been given sufficient training in defining and identifying quality and therefore they are poor judges of their own learning. (Dental educators and examiners may want to give some consideration to the possible merits of this hypothesis.) But a more generous and realistic explanation can be found to cover the case of evaluating success in continuing education. Just as dentists come to courses with their own individual definitions of what is important and what is not, so might they also come equipped with personalized standards for measuring success.

The kind of evidence just presented is completely at odds with efforts to regulate dentists' continuing education behavior for the sake of protecting the public. There is an inevitable shock and tension between a private practitioner attempting to interpret the needs of his unique practice through his individual standards of accomplishment and public policy makers who believe that the goal of continuing education is quality assurance and that it should be measured by behavioral change. To accomplish his goals, the dentist needs help such as the AGD self-assessment tests, the ADA guidelines [9] and registry service,[10] but most of all he needs stronger continuing education programs. Public policy shapers need more information because plans which are not based on a factual understanding of professional learning behaviors are bound to be shakey.

PRE- AND POST-TEST EVALUATION

Closely associated with the growing interest in required continuing dental education attendance is the justifiable concern over evaluation. Most serious students of the subject realize that required attendance is no guarantee of learning. Equally obvious is the relative uselessness of the customary post-course opinionnaire. Hopes have now been pinned on pre- and post-course testing with the change score being equated to student learning. This hoped-for solution has been much discussed by people who have had no experience with such an evaluation system. Part of its appeal stems from an association with the systems model of learning which has generated computer and television instruction.

The many problems associated with pre- and post-testing in continuing dental education have been discussed before.[5] For present purposes, they need only be briefly listed. First, the systems model of educational technology seems singularly inappropriate to self-selected, self-motivated continuous learning. Second, the psychometric problems of parallel test forms, criterion referencing, and interpretation of change scores demand special expertise not usually found in continuing education programs. Next, as has just been recounted, dentists' and clinicians' concepts of the purpose and content of a course may differ substantially, and this fact raises serious questions of validity. Similarly, if fewer than one in five dentists or clinicians is concerned about developing factual knowledge, pre- and post-tests which are almost exclusively didactic amount to measures of unintentional learning. The psychology of incidental learning is poorly studied and tests of this sort are notoriously unreliable. A fifth reason concerns the practical considerations of red tape and cost. The California Department of Consumer Affairs informed dentists this past June that financial limits prevented the Department from keeping simple records of course attendance. Given these circumstances, it would be unthinkable to seriously suggest additional bookkeeping.

But the sixth reason is entirely sufficient in and of itself. Pre- and post-test measures of change in continuing education are apt to be evaluations of the wrong thing. The ADA guidelines are correct in urging that such evaluations be anonymous and that the results should be of interest to individual participants or (in the aggregate) to course directors.[9] Such

scores have no place in attempts to regulate dentists in the name of serving the public. We have already found that change in behavior is not an overriding goal among regular attenders of continuing education and that it may be a very distorting indicator of the value of a course. Consider a dentist who begins by being a positive threat to his patients' health, but succeeds in pulling himself up by his support hose to a merely mediocre status. By contrast, the quality dentist who has always remained excellent cannot demonstrate significant behavior change. If we are interested in quality, we should measure it directly and not be distracted by indirect approaches to the wrong problem.

THE ALTERNATIVE: STRENGTHEN THE PROGRAMS

Considering the absence of evidence for compulsory continuing education attendance as a method of quality assurance and the data reported on how dentists are actually using existing programs, it is obvious that a new policy should be forged. A way is suggested by using what we now know which will likely answer the needs of both the profession and those concerned with consumer rights. Rather than regulating the behavior of individual dentists in an effort to ferret out the stragglers or force them to sham keeping current, the overall quality of dentistry should be improved across the boards. The available evidence suggests that this can best be done by strengthening continuing education programs.

This point can be illustrated by exploring an analogy with nutrition. The United States has led the modern Western World in diet-related health benefits in the general population. Although synthetics and high processing threaten to cheapen this achievement, we are bigger, stronger, and healthier than anyone has ever been. Recently, the Federal Food and Drug Administration began to establish Minimum Daily Requirements — which have more recently been changed to Recommended Daily Allowances. But it would be ridiculous to argue that these RDA standards played any significant role in the mass nutrition-based level of health of Americans compared to conditions in Asia or in America 200 years ago. It may be quite as possible to be malnourished while meeting all the Recommended Daily Allowances as it is to practice marginal dentistry and attend 50 hours of continuing education each year. The significant achievements in nutrition have been accomplished through developments in the production and distribution of food. A strong

system for supplying real needs is much more effective than piling regulations on hapless consumers.

This lesson can be well applied to continuing dental education. An unknown, but obviously large, proportion of what passes for continuing education is quite informal. In the survey of three districts in California,[6] less than half of the courses were taken from sponsors strong enough to be called continuing education *programs* — but these were judged to be more effective by the dentists. From what we know about dentists, it is fair to say that there is no oversupply of good courses which meet their real needs. The present concern for quality is at least partially a concern over shoddy or slick courses which are filling the void left by the absence of strong programs.

The distinction between courses as single entities and continuing education programs is fundamental. This is the position taken by the ADA in their guidelines and in their response of declining to assist the AADS in developing criteria for evaluating individual courses.[11]

There appear to be at least five characteristics of a strong program:

1. Size and diversity of offerings. Courses should be offered regularly covering both a variety of topics and pursuing several basic areas at different levels of sophistication.
2. Continuity of leadership. Whether a full-time director or a hard-working volunteer, business expertise and contacts must be built up.
3. Fiscal integrity. It is necessary for strong programs to have realistic and clearly specified budgets. They should avoid cutting their margin of profit so close that an educational course with poor attendance endangers the whole program.
4. Communication. All effective programs must be linked to a network of other providers (in order to share resources) and to the dentists which they serve.
5. Educational resources. This point has been overstressed. A continuing education program need not have closed circuit television, its own clinical space, and fantastic clinicians. It need only have immediate access to them.

Lest any confusion should arise, it should be noted that such programs are not synonomous with school-based continuing education programs. Some truly outstanding district programs, foundations, and consortiums exist. In a recent survey by Chambers and Hamilton[12] of all United States dental schools it

was discovered that less than half of the school-based operations could qualify under the five criteria just mentioned. No stronger testimony need be given to the pressing need for strengthening continuing education programs.

In well-intended efforts to improve continuing education, regulations requiring attendance may have actually worked to the detriment of quality learning. Although attendance at courses offered by dental schools in California has increased since the new requirement went into effect over a year ago, the arithmetic of the situation means that attendance at other forms of continuing education has increased at a more rapid rate. On the other hand, if regulations were placed on quality of courses rather than on the dentist, we might well expect an improvement through stimulating better courses, not just more of them. One such possibility is to count hours spent in participation courses at twice the value of didactic presentations. Similar incentives might be offered for courses with built-in evaluation mechanisms.

CONCLUSION

Of the many avenues for strengthening the dental profession and increasing its power to provide quality dental care to the public, continuing education must certainly be among the most promising and least developed. Imminent changes in the patterns of American health care delivery have focused attention on this potential. But an overreaction in the form of attempts to regulate dentists' attendance at courses is premature in the complete absence of any supporting data. In fact, the information summarized previously, leads to the fear that such requirements may weaken professional learning for any combination of the following reasons:

1. Private practitioners show a great deal of individuality in determining what is important to their practice and how it is to be evaluated. Presenters of courses and policy makers appear to be poor judges of these motives.
2. The importance of measurable behavior change is exaggerated by clinicians and policy makers. Part of the ethic of professionalism is remaining informed, which does not imply changes.
3. Pre- and post-test evaluation systems are impractical or misleading for most continuing education courses.

The alternative is to treat quality assurance as a separate issue to be handled in a straightforward manner and to accept

continuing education as a means for improving the overall performance of the dental profession. This can best be done through direct support of continuing education programs. To strengthen such key providers requires the financial and administrative support of Deans of dental schools and politically influential society members. It also needs a shift in regulations away from trying to govern dentists and toward defining and requiring quality professional lifelong learning.

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Expanding the Role of Behavioral Objectives in Dental Education

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The concept of behavioral objectives can be traced to a school of psychological thought called behaviorism. Behaviorism developed in the early 1900s and became a strong force in psychology by 1920. As early as 1934, Tyler was exhorting teachers to specify their behavioral objectives, that is, to state how they want their students to behave.[1] The concept of behavioral objectives then lay dormant until the 1950s when B.F. Skinner brought behaviorism to education with the technology of programmed instruction and teaching machines. In 1962, Robert F. Mager popularized behavioral objectives with an easily read programmed instruction book titled "Preparing Instructional Objectives."[2] Since then the number of speeches, articles, and books about behavioral objectives has grown phenomenally. The increased interest in behavioral objectives accurately reflects their usefulness and value.

In the area of dental education, there is a broad use of behavioral objectives in teaching. One funding agency, the U.S. Public Health Service, has sponsored projects to collect or develop behavioral objectives.[3] One accrediting agency, the Commission on Accreditation of the American Dental Association, now requires behavioral objectives for accreditation of dental curriculums. These are all attempts to accomplish in dental education what behavioral objectives have accomplished in other areas of education.

The curriculum reform projects of the 1960s in English, mathematics, and the sciences all started with re-examining and changing the objectives of teaching. Many research studies have

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shown programmed instruction and audio-visual education drastically cutting teaching time. The cuts in instruction time are caused less by increased efficiency in the teaching method than by the change or refinement in the objectives of instruction. One of the leading researchers in the area sums up a decade of instructional research this way, "The most important results have not been produced by changes in instructional methods, nor by use of computers or audio-visual devices, but rather by changes in instructional content."[3]

Clearly defining behavioral objectives is the first and most critical step for a rational educational system. However, it must be admitted that developers of behavioral objectives have often taken a narrow view of learning. In the military and industrial training sectors, the emphasis has been on *psychomotor* objectives. In general education, the emphasis has been on *cognitive* objectives. Only in the last few years has much attention been given to objectives in the third area of learning, the attitudinal or *affective.* The purposes of this paper are to examine the three kinds of educational goals held by dental schools and to demonstrate that explicitly stating behavioral objectives for all three kinds of goals (cognitive, psychomotor and affective) provides an essential platform for curriculum planning and design, inter- and intra-institutional communication, and curriculum evaluation.

PSYCHOMOTOR OBJECTIVES

Psychomotor objectives describe the manual skills a person needs to provide dental care. It often appears that the goal of dental education is to give the dentist an arsenal of procedures, such as pin amalgams, periodontal flaps, or root canals. These psychomotor goals are clearly an important part of dentistry but they must not be considered all of dentistry. Psychomotor goals can be developed at the level of simply listing procedures the graduate will be able to perform. At the other extreme a detailed task analysis can be developed for each procedure.[4]

There are also different levels of learning psychomotor skills. Due to constraints on the educational system it may not be possible for all students to master all skills. Some of these skills must be taught to a high level of proficiency and speed, such as the Class I amalgam. Other skills may demand a level of competence but not necessarily a high level of proficiency. These would probably include procedures which are less frequently performed in practice, or for which patient resources during the

dental education experience are limited. A third level of skill teaching is simply to familiarize the dental student with particular procedures which may not be performed in a general practice but with which a dentist must be familiar in order to make referrals. A fourth level of learning psychomotor skills, often neglected, involves the recognition that the dentist needs the capacity to learn new procedures continually during his professional career.

COGNITIVE OBJECTIVES

What knowledge must the dentist have to effectively use his arsenal of procedures? What is the executive function controlling the use of the manual skills? The answers to these questions give the *cognitive* objectives of the institution. The good dentist has in his repertoire a vast array of facts in the basic sciences, the clinical sciences, practice management, and so on. What is perhaps less obvious is that he also uses cognitive principles to guide the unique ways he applies all his facts to each particular patient. Cognitive objectives must address not only what facts the student possesses, but also the cognitive skills he uses to interpret data, diagnose, and treatment plan each unique patient he encounters.[5] This process of applying general principles to specific situations is commonly called deduction or problem solving.

Even the discussion above provides only a narrow view of the cognitive learning of our graduate. That is, it assumes that the graduate will become a chairside dentist. A broader view of dental education would include other styles of practicing dentistry such as teaching in a dental educational institution or participating in a community health program.

AFFECTIVE OBJECTIVES

When affective objectives have been addressed at all they have usually been expressed as attitudes towards abstractions. For example "the dentist will be oriented toward preventive dentistry." However, the process of making decisions is influenced not only by the facts the individual knows and skills he has, but also by the attitudes or values that he holds. Included are the values placed on himself, his occupation, other people, and health. These attitudes can be influenced or developed in the dental curriculum, but not unless they are identified, agreed upon, and taught (both directly and indirectly) in a consistent manner. All too often the student receives verbal and nonverbal messages of an attitudinal

nature that are contradictory. The results, in terms of the student's attitude development, are neither controllable nor predictable.

Although objectives have been discussed conceptually in three different categories, psychologically, all three are interdependent and interacting. Any single action of an individual is a function of all three areas, or domains of learning. For example, demonstrating tooth brushing and flossing to a patient results from a complex interaction of educational experiences. The *cognitive* domain contributes knowledge of research findings about the results of plaque accumulation and the most effective methods of plaque removal. The demonstration involves a multitude of psychomotor skills to manipulate a tooth brush and a strand of dental floss. In the affective domain are the dentist's values about the benefits his patients will derive from effective plaque removal and the satisfaction he will feel from helping the patient.

THE ROLE OF OBJECTIVES IN CURRICULUM DEVELOPMENT

The term "curriculum" implies an organized effort toward a goal; a dental curriculum is a course of study designed to develop dentists. The goal, or the dentist, is defined by the knowledge, skills, and attitudes he possesses, that is, by the behavioral objectives of the teaching/learning process. Therefore curriculum design, whether an initial effort, curriculum evolution or curriculum revolution, can be described as a manipulation involving behavioral objectives. This includes their development, refinement, organization, implementation, and evaluation. The process of curriculum design can then be subdivided into the following steps: (1) defining the behavioral objectives or educational goals, (2) defining the philosophy of education, (3) identifying the constraints, (4) selecting the learning experiences, and (5) evaluating the learning experiences.

The first step in curriculum development is defining educational goals using behavioral objectives. There are three sources of these behavioral objectives,[6] the subject-matter specialists, the consumers, and the students. Each of these sources has its own bias, or point of view. The subject-matter specialists (*e.g.*, periodontists and restorative dentists) have traditionally been the primary, if not the sole, source of educational goals. The dental specialist/teacher, due to his concentration in one area, may lose overall perspective in defining the relationships among the

components of the overall content of the educational program. He is a valid source of input, but decision-making must be tempered with a broader view.

The consumers of dental services, society in general, consumer advocates, third parties, governmental agencies, etc., have had little effect on curriculum development in the past. Few studies are available regarding the dental health of the population and the efficiency of therapeutic measures employed. While this group cannot and should not replace the subject matter specialists in the decision-making process, the validity of its input as a partner is being more widely recognized.

The consumers of dental education, the dental students, are the third source. Few would contend that the student should dictate the subject matter of dental education; however, there is information about the student that can affect the curriculum. What are the knowledge, skills and attitudes of the entering student? What prejudices and misinformation does he hold, and what learning skills has he attained? The matriculated dental student assumes an intermediate position between the dental specialists and the consumers. His partial knowledge of dentistry makes him a valid partner in the decision-making process. By virtue of age and proximity to society, the student may be more attuned to society's changing nature, and therefore can help keep the curriculum progressive and prevent stagnations.

These three groups together should define educational goals and behavioral objectives, addressing themselves to the cognitive, psychomotor, and affective domains, as described previously.

The second step of curriculum development is the statement of the philosophy of the institution. This involves an explicit statement of institutional values regarding its role and its educational methods. For example, the faculty may value adapting instructional method to students as opposed to adapting students to instructional methods. Value may be placed on allowing students to participate in the process of determining educational objectives or goals. Administrative efficiency may be valued above all else. Providing educational opportunities to those persons ignored by the traditional dental education system may be deemed important. Changes in the geographical distribution of dental manpower may be a goal. Statements such as these should be included in the educational philosophy of an institution. It is often difficult to distinguish between the ideal graduate of the

institution. When the philosophy has been defined the original objectives are evaluated in light of the stated philosophy. Any objectives which contradict the philosophy must be deleted or modified.

The third step in curriculum development is to define the constraints operating on the educational system. Internal constraints include patients, facilities, space, and faculty. External constraints on dental education programs include the contingencies of federal and state funding state board examinations, national board examinations, and requirements of accrediting bodies. Policies of the university and medical center in which the dental school exists are also operating constraints. These may be objectives and points of philosophy that must be included or they may be evaluation standards against which the previous objectives and philosophy must be measured.

The fourth step in curriculum development is examining the state of the art in teaching and learning technology, instructional research, and educational psychology to select learning experiences that appear to be the most effective and the most efficient for reaching the objectives and are compatible with the philosophy and constraints derived previously.

This step might result in decisions such as the use of patient simulations by computer for teaching complex diagnostic skills, the use of programmed instruction for teaching basic biological facts, the use of observation and role playing for teaching patient interaction skills, the use of role modeling for teaching compassion for patients and community responsibility and receptivity.

The final step in curriculum development is the evaluation of the learning experiences, once in practice, to determine that the graduate of the educational program matches the original statement of objectives. Where a discrepancy exists, the original objectives should be examined for validity, the specific learning experiences examined for reliability, and the overall curriculum inspected for contradictions. As the state of dental science grows and/or as society changes, an ongoing evaluation is possible and essential to determine that the objectives, philosophy, and learning experiences meet the needs of students and patients.

A healthy operating institution is constantly examining its present actions and techniques, and developing new methods and techniques. As faculty and administration turnover occurs, as once-new programs become old programs, and as decisions but

not discussions are recorded in committee minutes and policy statements, the underlying goals and purposes for particular academic or administrative decisions become lost or distorted. Then the discussions about methods and techniques become arguments between advocates of the old way and advocates of the new way. Decisions are made on the basis of personal force of character rather than consistency with the institutional goals. In short, communication about academic and administrative decisions cannot be effective without addressing the goals which underlie those decisions.

Educational goals are the targets against which the institution must evaluate itself. The question asked in evaluation is: "Does this institution do its job well?" One level of evaluation questions the educational goals asking: "Is the institution attempting to do the right job?" For example, an accrediting body might hold the value that graduates ought to have a preventive orientation toward dentistry. It would, therefore, criticize an institution whose goal statements do not include "a preventive orientation toward dentistry." The second level of evaluation asks the question, "Given the educational goals that this institution has adopted, does it meet those educational goals effectively and efficiently?" Clearly there can be no useful evaluation of the second level without an explicit statement of what those educational goals are.

CONCLUSIONS

Dental educational institutions should identify or develop clear statements of behavioral objectives in the areas of psychomotor skills, knowledge, and attitudes of institutional philosophy. These should be used to facilitate intra-institutional communication and achieve consistency in teaching. The sources of these objectives and philosophy statements should be examined to assure that the goals are appropriate. An ongoing evaluation system should be developed to insure that the goals evolve and to examine the efficiency and effectiveness of the curriculum in meeting its stated goals.

SUMMARY

Five steps of curriculum development have been described to clarify the essential role of defining educational goals. The statement of educational goals — both behavioral objectives and philosophical goals — becomes the foundation for curriculum planning for the institution. Without such a foundation, curriculum

planning can only progress in an arbitrary fashion or in a traditional fashion (doing what other people have done). While either of these latter courses *may* lead to an adequate curriculum they are unlikely to lead to an optimal curriculum. Neither of these permits systematic institutional self-evaluation and curriculum improvement. Educational goals then are essential for progressive and systematic curriculum planning, effective communication and decision making, and any type of curriculum evaluation.

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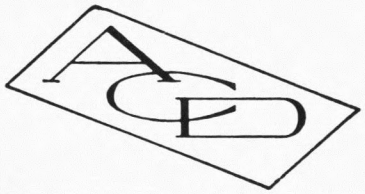
People are disturbed not by things, but by the views which they take of them.

Epictetus



READER COMMENT

In this new feature the Journal will print brief thoughtful opinions from Fellows of the College. All contributions are welcome.

A WASTE OF NEEDED, QUALIFIED DENTAL EDUCATORS

Good dental educators in sufficient quantity are hard to come by. We have for a number of years been faced with a shortage of qualified teachers in all phases of dental education. Yet it is a well-known procedure in many dental schools to retire, because of an established age limit, many teachers of clinical dentistry who have spent years in developing their teaching skills. In fact most dental teachers have been, over the years, graduate dentists who acquired their teaching qualifications by "on-the-job training." Much of this training was at great personal cost and no little expense to the school in one way or another.

Whether part-time or full-time teachers, this contact with dental students over a period of years has qualified our teachers with the ability to impart the knowledge and know-how needed to create the highly skilled dental graduates whom we have come to expect from our teaching curriculum administered by these dedicated teachers.

Why in heavens name should a dental teacher who has reached an arbitrary age of 65 or 70 be adjudged incapable of furnishing the same high degree of dental instruction which he has by long practice become capable of contributing? Why, because of reaching a particular age should we snatch this good and faithful servant of humanity away from our students, often to the curtailment of the best teaching? Very often the successor to this prematurely retired and dedicated person is just as sincere and dedicated, having the will but often lacking the practical experience which can only be acquired by years of intensive application to the subject at hand.

Allowing that some teachers as well as others "may grow old on the job" does not mean that everyone reaching that arbitrarily selected age should be put out to pasture, thus depriving the students of his wisdom and good judgment as well as his

demonstrated ability to present dental education and thereby, better dental service to the public.

Although a few may slip a bit on newer methods in their later years, this does not erase completely their accumulated knowledge, acumen and acquired skills. Most intelligent, dedicated men will recognize their limitations in order to continue their potential ability to serve. Thus they will be helping to alleviate the already short supply of talent in a field which needs constant replenishment.

As an ex-dean who worked conscientiously at his job until he reached the age of 73 (eight years after the prescribed retirement age) and who was not asked to retire, I can testify that I recognized the right time to hang up the gloves before the school suffered from any neglect. And I am quite sure many others would have been able to add years of useful service with careful application, to the education of our dental students. A little discretionary selectivity could go far to develop a workable plan of procedure.

I am also thankful that in my 16 years as a dean I was never called upon to terminate the services of a competent, experienced teacher because of an arbitrary age limit.

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School of Dentistry

PROBLEMS OF FUNDED RESEARCH IN THE PRESENT ECONOMY

Attendant on the necessary economies the federal government must exercise to preserve our nation is a sudden and rather serious reduction in available research grants. This action is presently the most discussed matter among the research faculties of all the dental schools in the U.S.A. It has also pointed up some weaknesses in the underpinnings of health research once the federal faucet is turned off.

It has long been common knowledge that government contracts are awarded on the basis of research programs carefully structured by federal health agencies to satisfy their unique aims, and that a professor who is awarded such a contract is only too well aware that he has become a mercenary, and can no longer practice "free inquiry," a principle long dear to research ideals.

Such a distorted policy, acted out by the faculties of schools usually of the highest rank in research, has become a divisive issue, because it strikes at the heart of university integrity for two reasons.

First, the execution of a research program to arbitrary contract specifications, where renewal of the grant the next year is so visibly dependent on producing results satisfactory to the provider, can hardly be identified with objectivity. No one for hire to do a project which does not always precisely coincide with his own interests can fulfill the specifications for a serious, dedicated researcher. This situation can only worsen as the number and size of available grants diminishes.

Second, a university faced with budgetary problems of its own may suddenly find itself aware of a research professor with an approved project and generous grant in his pocket confronting the university trustees with a set of expansive demands. At the same time he may make it clear that he is in a position to take his grant and associates with him to another institution should his demands be denied. This suddenly fading loyalty to his alma mater is readily understood. His true source of nourishment has become the federal sources, and the granting agencies have become identified as the new "campus," the solid base for his future activity and personal welfare. Unquestionably, grants serve a function beyond guiding and supporting research.

The much-discussed question of elimination of whole departments in the event of cutoff of funds proves how dependent universities are for their very existence on grant monies. Our fine dental schools will be living the unhappier side of this dilemma in the next few years, after having enjoyed an era of plenty up until recently. It is most unfortunate that the schools with the best research faculties can be expected to suffer most, but the integrity of all schools must be in peril of disintegration as well when the loyalty of their professors becomes more a matter of caprice than a sense deeply felt.

Joel Friedman
730 Fifth Avenue
New York, N.Y. 10019

WHAT EVER HAPPENED TO JOSIAH FLAGG?

Josiah Flagg (1763-1816) is remembered as one of the first native born scientifically trained dentists in America. He helped establish dental practice on American soil where it was to grow so fruitfully.

Yet in this bicentennial year, scarcely a word has appeared about Josiah Flagg in the dental literature. Indeed, with few exceptions, little has been said or written about dental history and the unique role which dentistry has played in the story of America.

Contrast this with the situation in 1876 when America was one hundred years old. Wishing to "present in some suitable manner the claims of dentistry," the American Academy of Dental Science published in 1876 a book: "A History of Dental and Oral Science in America." During the Centennial Exposition in Philadelphia, exhibits on the progress of dentistry were very much in evidence for the public to see. A writer noted that, as far as American dentistry on view was concerned, "nothing could approach us."

The development of dentistry as a profession is a uniquely American phenomenon. It was here that the first dental school in the world was established. American dentistry became not only the first full time specialty in American medical practice, but the first specialty in which Americans gained pre-eminence abroad.

Josiah Flagg in 1770 in one of his ads wrote, "Hold fast that which is good." The "good" is the priceless gift which dentists in America have given to the world and in so doing have contributed in a singular way to America's greatness.

It should be remembered and emphasized during and long after this bicentennial year.

H. Martin Deranian, D.D.S.
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LETTER TO THE EDITOR

Dear Sir:

This letter is in reference to an article, "Preservation of the Dentist-Patient Relationship," by David B. McClure, D.D.S., which was published in the April 1976 edition of the *Journal of the American College of Dentists*. Specifically, we wish to reply to a statement printed on page 101, to wit:

> There is much unrest with the California Dental Service Corporation as they want to get into capitation. It seems that in order to renew some contracts and get new ones that the CDS may have to offer capitation.

This statement is simply inaccurate. There is no "unrest" with CDS in this context. Two years ago, CDS was faced with the alternative of offering a capitation program in a dual choice situation, or losing a segment of the business it had to organizations with which the profession had little or no input.

Thus, a segment of the marketplace (mostly in aerospace) wanted capitation as an option. This desire could have stemmed from existent closed panels approaching the purchasers or from the HMO Act. In either case, it was the marketplace wanting to get into capitation that brought the matter to all of our attention.

CDS came to the California Dental Association to ask what the profession wanted, and after considerable debate advised CDS that the profession felt it inadvisable that the service corporation involve itself in that modality at that time. In fairness to CDS, it did in fact accept that recommendation, and subsequently lost just under 20% of the employees in each of the firms involved to the capitation side of these contracts. In a spirit of fairness to fee-for-service, it should be stressed that 80% stayed in that system. The only "unrest" in the profession might have been in the grappling with a difficult question, but CDS was completely cooperative in proferring the question, and going along with the profession's wishes.

We would hope that in the future you, the editors, will feel free to check any statements about the dental profession in California that might warrant such with us. Otherwise, rumors might result which can be painfully divisive, and divisiveness in the profession is of course something we all want to avoid.

Sincerely,

Gordon D. Marx, D.M.D.
Chairman, Council on Dental Care
California Dental Association

(Continued from page 202)

NEWS OF FELLOWS

Captain **Paul E. Farrell,** director of Clinical Services at the Naval Regional Dental Center, Norfolk, has been promoted to the rank of Rear Admiral. He will assume the duties of Inspector General, Dental at the Bureau of Medicine and Surgery, Washington, D.C.

Martin A. Rothman of New Haven and Westport, Connecticut has retired as editor-in-chief of the *Journal of the Connecticut State Dental Association* after 23 years of service. A testimonial dinner was held in his honor in June. The House of Delegates of the CSDA elected Dr. Rothman to the office of Editor Emeritus by unanimous vote.

Thomas J. De Marco of Chesterland, Ohio, has been named dean of the School of Dentistry at Case Western Reserve University. He has been serving as acting dean of the school since January of 1976. At 34, Dr. De Marco is the youngest dental school dean in the nation.

Ralph Kaslick has been appointed dean of the School of Dentistry of Fairleigh Dickinson University.

A. Gerald Racey, of Montreal has been named emeritus professor of Dentistry at McGill University at its recent Convocation of Health Sciences.

Howard L. Ward, professor and chairman of the Department of Preventive Dentistry at New York University College of Dentistry has been appointed to the New York State Board of Dentistry.

Frank N. Ellis, assistant director of the TEAM (Training in Expanded Auxiliary Management) program at the Indiana University School of Dentistry for the past two years, has been appointed director of Dental Auxiliary Education at the South Bend campus of Indiana University.

Rex Ingraham of Glendale, California was inducted into the Dental Hall of Fame of the University of Southern California.

James W. Smudski of Pittsburgh has been appointed dean of the University of Detroit Dental School.

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The Objectives of the American College of Dentists

The American College of Dentists in order to promote the highest ideals in health care, advance the standards and efficiency of dentistry, develop good human relations and understanding and extend the benefits of dental health to the greatest number, declares and adopts the following principles and ideals as ways and means for the attainment of these goals.

(a) To urge the extension and improvement of measures for the control and prevention of oral disorders;

(b) To encourage qualified persons to consider a career in dentistry so that dental health services will be available to all and to urge broad preparation for such a career at all educational levels;

(c) To encourage graduate studies and continuing educational efforts by dentists and auxiliaries;

(d) To encourage, stimulate and promote research;

(e) Through sound public health education, to improve the public understanding and appreciation of oral health service and its importance to the optimum health of the patient;

(f) To encourage the free exchange of ideas and experiences in the interest of better service to the patient;

(g) To cooperate with other groups for the advancement of interprofessional relationships in the interest of the public; and

(h) To make visible to the professional man the extent of his responsibilities to the community as well as to the field of health service and to urge his acceptance of them;

(i) In order to give encouragement to individuals to further these objectives, and to recognize meritorious achievements and potentials for contributions in dental science, art, education, literature, human relations and other areas that contribute to the human welfare and the promotion of these objectives — by conferring Fellowship in the College on such persons properly selected to receive such honor.

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American College of Dentists
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Bethesda, Maryland 20014

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