University of Kentucky
UKnowledge

Oral Health Science Faculty Publications

Oral Health Science

10-1994

The Life-Long Learning Imperative... Ends and Means

David A. Nash

University of Kentucky, danash@uky.edu

Follow this and additional works at: https://uknowledge.uky.edu/ohs_facpub

Part of the [Dentistry Commons](#), and the [Medical Education Commons](#)

Right click to open a feedback form in a new tab to let us know how this document benefits you.

Repository Citation

Nash, David A., "The Life-Long Learning Imperative... Ends and Means" (1994). *Oral Health Science Faculty Publications*. 23.

https://uknowledge.uky.edu/ohs_facpub/23

This Commentary is brought to you for free and open access by the Oral Health Science at UKnowledge. It has been accepted for inclusion in Oral Health Science Faculty Publications by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.

The Life-Long Learning Imperative... Ends and Means

Notes/Citation Information

Published in *Journal of Dental Education*, v. 58, no. 10, p. 785-790.

Reprinted by permission of *Journal of Dental Education*, Volume 58, 10 (October 1994). Copyright 1994 by the American Dental Education Association. <http://www.jdentaled.org>

The Life-Long Learning Imperative... Ends and Means

David A. Nash, D.M.D., Ed.D.

Dr. Nash is professor and dean of the College of Dentistry, University of Kentucky, Lexington, KY 40536-0084. Internet: david.nash@ukwang.uky.edu. Send all correspondence to Dr. Nash. This paper is a presentation made at the American Association of Dental Schools, "Current Dilemmas in School-Based Continuing Dental Education."

Learning for life is my theme. If I employ "for" as a case relation, I emphasize the end of learning – its reason, ground, purpose; learning... for life. Use of "for" as a preposition accentuates the duration of time of learning; learning... for life, that is, life-long learning. My thesis is that there is an imperative, a necessity, for dentists as professionals to be life-long learners. I will justify this claim by examining the ends of learning for life, and the means I believe relevant to us as dental educators for achieving this aspiration of helping our students and colleagues become life-long learners.

Thinking about ends is thinking about goals, aims, purposes, that is, "things viewed after deliberation as worthy of attainment and evocative of effort."¹ Ends are to be understood as goods valued by human intelligence as desirable objectives and guides to action. Ends are realized and constituted by means and cannot exist without means. True means are the end analyzed into its constituent factors, therefore means, when properly understood, have the meaning and value attributed to ends. Ends and means are integrally and dynamically linked, not just mechanically related. While distinguishing between ends and means for pedagogical purposes, it is important to affirm that ends and means are always functional unities. While I will suggest three ends of life-long learning and three means for developing life-long learners, such a distinction is, in a sense, an artificial convenience for understanding life-long learning, its value and role in being a dentist and a human.

THE ENDS OF LEARNING FOR LIFE ■

There are at least three frameworks for understanding life-long learning as an end. I will characterize them as philosophical, psychological, and practical.

The Philosophical End

In the "Nichomachean Ethics,"² Aristotle expressed the goal of life as "eudaimonia," translated as happiness or well-being. Aristotle said well-being was achieved by living one's life in accord with virtue. Virtue literally means "fulfillment of function." The virtue of a knife is to cut well. A knife "fulfills its function" when it cuts well; or by virtue of cutting well it fulfills its purpose. Happiness as a human, Aristotle believed, depends on living virtuously. The so-called virtues are qualities or character(istics) we possess that motivate us to pursue or follow behaviors that permit or facilitate the fulfillment of our function as humans. Aristotle understood human life to be unique, and distinguishable from other forms of life intellectually and morally. Humans are different than other living creatures because of their rationality, with the subsequent and derivative requirement for moral behavior in the context of being a social being. I will comment only on the intellectual dimension of Aristotle's explication of our human uniqueness, not the moral. For Aristotle, our rationality as humans is the noblest part of our nature. Therefore, to fulfill our function as humans, to be virtuous, we

must cultivate our intellectuality. Learning for life is an imperative with a philosophical ground; we are learning beings. Not to learn is to be in conflict with our nature. Life-long learning is the fulfillment of who we are in the core of our being. The popular psychiatrist, Scott Peck, goes beyond Aristotle in affirming learning, "I don't think we're here to be happy. We're here to learn."³ John Dewey, the eminent American philosopher/educator said we must "cease conceiving of education (learning) as mere preparation for later life, and make it the full meaning of present life ... an activity that does not have worth enough to be carried out for its own sake cannot be effective as preparation for something else."⁴ Learning is a human good, to be understood and pursued for life, as its own reward ... an end in itself.

The Psychological End

I will appeal briefly to the work of three American scholars to support my claim that life-long learning has a psychological end. Maslow's⁵ theory of motivation suggests humans are motivated, that is, moved to action, by a number of basic needs that are species-wide, apparently unchanging, and genetic or instinctual in origin; intrinsic aspects of human nature. We are all familiar with his hierarchy of physiological, safety, social, and ego needs. Key to Maslow's theory, and at the pinnacle of his pyramid of human need is the notion of self-actualization, self-fulfillment, self-realization; "what a man can be, he must be."⁵ We are driven to fulfill our function as humans. Maslow challenged us to "become more and more what we are ... to become everything one is capable of becoming."⁵

The work of Csikszentmihalyi,⁶ for many years chair of psychology at the University of Chicago, provides empirical support for the thinking of both Aristotle and Maslow. His research, spanning 25 years, suggests people are happiest when their body or mind is stretched to its limits in a voluntary effort to accomplish something difficult or meaningful. He refers to this as "flow" — the state in which people are so involved in an activity that nothing else seems to matter. A flow experience is so enjoyable that people will do it, even at great cost, for the sheer sake of doing it. Having our intellectuality exercised and stretched with new ideas, challenging concepts, and exciting understandings is to get in, and be in, flow. Flow has dimensions of both intensity and time. Our nature as humans is such that we need to be continuously challenged with new and more demanding learning. That which was challenging at one point in our life is no longer challenging after it has been mastered. Our first design of a course for our students was likely a flow experience; however, teaching the same course in the same manner five

years later does not bring the challenge and intensity necessary to be a flow experience; that is, an experience that leads to fulfillment and happiness. In sum, Csikszentmihalyi's psychological research suggests that human happiness is strongly dependent on the continual intellectual challenge that comes from learning.

Finally, I appeal for psychological justification for life-long learning as an end to the work of Erikson.⁷ Erikson painted an interesting portrait of human life by characterizing the so-called "eight ages of man," the eight psychosocial tasks that span human life. His eighth and final stage of life, "integrity versus despair," corresponds to the period when an individual's major efforts are nearing completion and when there is time for reflection. This psychosocial task is framed as affirming a sense of the integrity of one's life on the positive pole, or acceding to a sense of despair on the negative pole. A sense of integrity arises when one is able to look back over life with satisfaction, with a sense of fulfillment; to use Aristotle's framework, to be able to say I have fulfilled my function as a human being, therefore, I have lived a virtuous and good life. To use Maslow's paradigm, I have actualized my potential as a human being ... I was "all I could have been." In Csikszentmihalyi's construct, I lived life in a state of "flow," continually challenging myself by developing new understandings and abilities. At the other extreme is the individual who reflects on life with despair, a sense of neglected opportunities, misdirections, unrealized potential, unfulfilled aspirations; regretting that life cannot be relived. The life-long learning imperative is an end; an imperative that enables one at the end of life to acknowledge a personal sense of integrity rather than die in despair. Kubler-Ross, the sage of death and dying, stated it this way, "don't scream at death when you realize you were not all you could have been."⁸

The Practical End

A final end of learning for ... life is the practical one. Dentistry is a learned profession with an ever expanding knowledge base. The progress of science generally, and science directly related to the provision of care for our patients, is explosive. Between 6,000 to 7,000 scientific articles are written each day. Scientific and technical information now increases 13 percent per year, which means it doubles every 5.5 years; and, the rate will soon jump to 40 percent per year because of new more powerful information systems, and an increasing population of scientists. This means our scientific data base will double every 20 months.⁹ The knowledge explosion is readily apparent to us in dentistry.

To meet the goal of our profession to bring about the benefit of oral health for humanity, it is

essential that we apply science to oral health problems. Such forces the imperative of learning for ... life. A competent professional in dentistry must apply the profession's current knowledge base to patient care with integrity. Standards of care must be fulfilled, and those standards are continuously evolving and advancing. Only the practitioner who values and is committed to the practical end of learning for ... life is a practitioner who will be committed to the imperative of learning over the full expanse of his or her professional life.

The ends of life-long learning are grounded in philosophical, psychological, and practical understandings of who we are as human beings and dentists, and what we are about.

THE MEANS OF LEARNING FOR LIFE

If these are the ends of learning for life, what can be the means of attaining such ends. I will suggest and defend three: matriculating learners, motivating learners, and managing learners ... for life.

Matriculating Learners

We make a serious mistake in accepting and matriculating in our curricula individuals who have not begun the process of learning for life by gaining a liberal education. Our behavior in this regard reflects our values, values that become patently apparent to prospective students. Education is about understanding ... appreciating the nature of life and the workings of the world ... a comprehension of humanity's current understandings of, not only how things are, but relevant theories of why things are the way they are. Our insistence on relatively rigid admissions requirements to our colleges of dentistry, requirements that tend to force our prospective applicants into curricula heavily weighted toward science, emphasize that one must learn to gain (admission to dental school); not necessarily learn ... to learn. An understanding of science, the biological, chemical, and physical functioning of our natural world, is basic to any liberal education, and should be requisite to a baccalaureate degree and admission to the study of dentistry. However, encouraging or forcing our applicants to take advanced science classes, or major in the natural sciences, can deprive them of the opportunity to learn and appreciate the larger context in which their professional lives will exist. How can one appreciate the ends I have advanced for life-long learning, the philosophical grounding of human life in Aristotle and other intellects of history, and the psychological grounding of learning in the theories of Maslow, Csikszentmihalyi, and

Erikson, if one's entire focus is on the practical, but subsidiary end of getting into dental school.

Key to life-long learning is learning about life. In his remarkably insightful recent book, "Prescribing the Life of the Mind," Anderson says, "the aim of liberal education ... is to empower the individual."¹⁰ Drawing on the etymological derivations of the word educate, the aim of education is to "draw forth" the potential powers of the individual mind; the power to think, to exercise practical reason ... about the world, its workings, one's self, and one's encounters with the world. Giamatti, in addressing Yale freshmen while president, said it eloquently in another way: "A liberal education is an education in the root meaning of liberal — 'liber,' free — the liberty of the mind to explore itself, to draw itself out, to connect with other minds and spirits in the quest for truth ... a liberal education is an education for freedom."⁹ Only when one is liberally educated can one put in its proper perspective the practical end of learning for life about dentistry.

My challenge, as we seek to promote the imperative of life-long learning, is that we insist on matriculating learners; individuals who have gained some degree of intellectual maturity through having participated in a broad-based, liberal education curriculum and who have earned a baccalaureate degree, a degree with an emphasis in any discipline that intrigues and prompts inquiry; any subject matter that promotes maturation as a thinker and learner. It is time we abandon our pre-dentistry syndrome, by acknowledging the truth of Pellegrino's challenging affirmation, "being a health professional has as much to do with the humanities as it has to do with the sciences."¹²

Motivating Learners

Once we have done all within our ability to matriculate learners, we must motivate their continued learning. I offer three criticisms of our current curricula in that regard: 1) we emphasize how, not why; 2) we emphasize techniques, not competencies; and 3) we emphasize knowledge, not attitudes.

Education is learning why, training is learning how. Training focuses on specific processes; on doing things a certain way to achieve a certain end. Training does not necessarily denote, as does education, the reflectiveness of understanding why. Education may include training, but training does not necessarily imply education. Training does not free one to continue to learn in the way education does. One critically important dimension of life-long learning is teaching one's self; we learn from our experience. We motivate further learning in our students by teaching them to teach themselves. Again we acknowledge Aristotle who said, "teaching is the highest form of understanding."¹³ To learn by assessing one's own performance against

a reason (a why) for that performance is to understand; to understand in ways that facilitate one becoming one's own teacher in the experience of life. Given a "why" we can create and evaluate many "hows." The "whats" and the "hows" of our instruction are always changing, the "whys" seldom do. Over a life-time, our graduates can control quality by continually assessing their performance against its ultimate goal, and they can help advance the science of dentistry by imaginatively creating new ways of achieving the goals of oral health. However, a teaching strategy that merely trains, that is, specifies how to do a certain thing, without referencing the goals and scientific ground of performance, is a strategy that leads dentists to being trained technicians, not life-long learning professionals. Dentists today do not learn for life in part because we have encouraged them to train for life.

While basic perceptual-motor skills are necessary to the practice of dentistry, the techniques through which those abilities are manifested change through time. Emphasis on developing perceptual-motor abilities, as a competency, is essential; emphasizing specific techniques as ends, is destructive to a life-long learning strategy. We help promote life-long learning when we emphasize competencies, not techniques. In motivating learning we must focus on such broad competencies as thinking scientifically, communicating effectively, practicing skillfully, valuing people, serving the public, and continuing to learn. Reconstructing our curricula to achieve these educational aspirations will foster widely diverse strategies, and will serve to emphasize learning for life, not only or simply training in techniques to graduate and pass the boards.

Making the development of these broad competencies our educational aim supports the concept of curriculum as process, not content. We intuitively acknowledge that competencies such as these evolve and improve over an expanse of time, over life; and are not amenable to being taught simply as content in a four-year curriculum. Such acknowledgement permits us to more readily think about dental education as a life-long process, the beginning of which is a four-year time span in which we empower our student dentists to think and to learn about dentistry. Again Dewey is instructive, "the best thing that can be said about education ... is that it renders the subject capable of further education. Acquisition of skill, provision of knowledge, attainment of culture are not ends, they are works of growth and means to its continuing."¹⁴ We must come to view our curricula as the beginning of a process of self-education that never ends. Appropriate to this concept is the quip by a distinguished American medical educator "a good education should leave much to be desired."¹⁵ Gregg's admonishment serves as an exclamation point for my argument that our curricula must become more process-oriented, and it serves as an

introduction to my third criticism of our curricula.

Our curricula fail to promote life-long learning because we emphasize information over attitudes. For far too long we have seriously neglected the role of attitudes in developing competent and committed professionals. Our focus on teaching a defined information base betrays a false assumption we have about information, and may partially underlie our problem of scholarship in dental education. The false assumption is the stability of our current base of information, an error aggravated by our satisfaction and general contentment with it. The more correct assumption is the transience of information; an acceptance and affirmation of dynamic nature of our information base. "We must, with some regret, and a slight sense of betrayal undermine our students' confidence in the soundness of what they are being taught."¹⁰ Inquiry is an unending quest and, consequently, learning is for life; and interestingly, living is learning. A principal goal we must have for our curricula is to develop in our students an attitude that acknowledges this basic assumption about discovery, knowing, and learning; with the corollary goal of helping them develop skills necessary for them to be life-long learners. We must create a society of learners committed to learning. Our students must graduate with attitudes such that they:

- realize they have only begun the process of self-education that never ends;
- commit themselves to lives of continued learning;
- characterize the environment of learning they have experienced with us as one that has nurtured and encouraged learning because it was challenging, effective, helpful, rewarding, and fun; and
- reflect on their learning with us as an experience that valued them and their learning, and that provided the motivation for continuing to learn.

When students leave our colleges with negative attitudes about learning, we are not creating the life-long learning professionals our society requires and needs. Mager expressed it well: "To increase the likelihood of students continuing to learn, accentuate the positive conditions and consequences of learning, and eliminate the negative or adverse conditions of learning."¹⁶ For far too many of us, our colleges are not exciting, lively places that engender enthusiasm for and engagement in learning.

I must mention one further and final critique that runs through all the others. If we are to develop life-long learners, we must be life-long learners. Our students learn by emulating us. If I am not a life-long learner, my students likely will not be either. What do our faculties' commitment to learn-

ing and to scholarship (in its root sense of being a student), suggest about our ability to foster life-long learning attitudes and strategies in our students?

Managing Learners for Life

My final suggestion of means for achieving the ends associated with the life-long learning imperative is managing learners ... for life. If we graduate liberally-educated dentists with the motivation to continue to learn the art and science of dentistry, how do we help them manage their continued learning? Our current college-based strategies are open to considerable criticism. The traditional one-day continuing education course, spent in the dark, in a hotel meeting room or a college of dentistry lecture hall, watching a seemingly unending array of slides on the latest technique, narrated by a droning expert, is not a key or critical ingredient in managing life-long learning. It is a strategy that is educationally flawed, instructionally unsound, physically uncomfortable, location dependent, passive not active, intensive not incremental, cost/benefit ineffective, information-oriented not competency-focused, and generally unsatisfactory to everyone. The time has come for us to transform our college-based continuing education strategies to more effectively meet the life-long learning needs of the profession. A list of under-utilized methods demonstrates the imperative for change: small participatory pre-clinical and clinical courses, mini-residencies, teleconferencing, telemedicine, multi-person/multi-site interactive computing, CD ROM technology, electronic mail, electronic bulletin boards, telefacsimile, Internet computer networking, satellite transmissions, video transmissions, video cassettes, audio cassettes, computer-based self-instructional programming, in-office mentoring and consultation, interactive video using compressed transmissions over telephone lines, newsletters, study clubs, correspondence courses, and toll-free 800 telephone lines for consultation. And, lest, in our enamored with technology we forget, let me mention an old and valuable tool of life-long learning ... the book. Readers are learners and readers are leaders! The more you read, the more you know; the more you know ... the farther you go.

But, specific pedagogical techniques are relatively unimportant, for they continue to evolve and develop. What is important is for us to understand that our role as educators in managing learning for life is to help professionals engage in substantive learning encounters. We should promote encounters with the tools of learning, be they written, spoken, visual, tangible, or personal. Our creativity is our asset, and our contemporary technology is an essential tool.

CONCLUSION

Our ends in life-long learning are grounded philosophically, psychologically, and practically. Our means involve us in matriculating learners, motivating learners, and managing learners. No college of dentistry is worthy of its name that does not teach its students how to learn. We teach most effectively when we help our students learn how to learn ... not what to think and make and do in 1994; but how to think and how to learn for those years of life and profession that lie ahead. We cannot teach dentistry for the Twenty-first Century, for the simple reason that dentistry for the Twenty-first Century does not now exist. One of the dangers of dental education is that it leads to graduation. True health professionals never graduate, they simply transfer from your university or mine to a new personalized college, a self-created college where they will be both faculty member and student. They will chair the curriculum committee, and no doubt have tenure! We can only serve as visiting professors. From this extended college, dentists can graduate with honors only on completion of their professional lives. It is imperative that we acknowledge, and help our students acknowledge, the ends and means of this personal life-long curriculum; and that we prepare them for both faculty and student status in this second, more intensely personal, and infinitely more important college.

I conclude with a favorite quote from John Gardner. In his book, "Self-Renewal," he says "if we indoctrinate our students in an elaborate set of fixed beliefs, we are ensuring their early obsolescence. The alternative is to develop skills, attitudes, habits of mind, and kinds of knowledge and understanding that will be instruments of continuous change and growth. Then we will fabricate a system that provides for continuous renewal."¹⁷

References

1. Dewey J. Experience and nature. New York: Dover Publications, 1958.
2. Aristotle. Nichomachean ethics. Translated by H. Rackham. Boston: Harvard University Press, 1982.
3. Peck MS. Bringing authentic communication into the workplace. *Business Ethics* 1994; 8 (Mar/Apr): 17-9.
4. Dewey J. Self-realization as the moral ideal. In: John Dewey, *The Early Works*. Carbondale, IL: Southern Illinois University Press, 1989.
5. Maslow A. A theory of human motivation. *Psychol Rev* 1943; 50 (4):307-96.
6. Csikszentmihalyi M. Flow, the psychology of optimal experience. New York: Harper and Row, 1990.
7. Erickson EH. *Childhood and society*. New York: Norton, 1950.
8. Kubler-Ross E. *On death and dying*. New York: MacMillan, 1969.