

Considering Liberal Learning and the Health Professions

Charles R Fox, OD, PhD, FAAO

Background and Purpose. There has been much discussion among both liberal arts and professional programs educators concerning the relationship between a liberal education and a professional education. The focus of these discussions is how a traditional liberal arts education can inform a professional (entry-level) education. This paper refocuses the discussion to consider professional education as a de facto liberal education.

Position and Rationale. The author suggests separating a liberal education from an education in a health profession has distinct disadvantages and is not necessary. The author maintains that the dichotomy between liberal and professional education is false. Professional education for all of the major health professions can accomplish the goals of a liberal education.

Discussion and Conclusions. The background and significance of the traditional distinction between liberal and professional education are described. The basic goals of traditional liberal education and their relation and relevance to modern professional education are discussed. Both general and specific examples of a professional education as a liberal education are presented. The discussion ends with a call to action for focused, public dialog among health professions educators on the relation of liberal and professional education with the goal of reconceptualizing the relationship between the 2 types of education.

Key Words: Liberal arts, Professional education, Liberal education, Professional pedagogy.

Charles R Fox is the associate dean for Academic Affairs & Research at the Wichita State University, College of Health Professions, 1845 Fairmount, Box 43, Wichita, Kansas 67260-0043, USA (charles.fox@wichita.edu).

Received November 28, 2006, and accepted February 29, 2008.

BACKGROUND AND PURPOSE

There has been much discussion concerning the relationship between an education in liberal arts and an education in a health profession. Some take a traditional view that the classics are the core of a liberal arts education, and therefore are separate from and preparatory for the professions.¹ Others take a more contemporary view, such as using the arts or the humanities as supplemental instruction in certain areas of professional studies.²⁻⁴

In each view, the focus is how training in the traditional liberal arts can inform and be included in a professional (entry-level) course of study. This is reasonable and is the traditional way of approaching a liberal education in the professions.⁵ In fact, even some of the most progressive thinkers in the area, such as Lee Shulman and colleagues at the Carnegie Foundation for the Advancement of Teaching, still speak of a liberal arts education and a professional education as separate domains. A recent Carnegie-sponsored research seminar⁶ sought to “give public expression and form to a critical component of professional and liberal arts education” and spoke of linking “the training of ... other professionals with the core aspects of the liberal arts.” However, I ask you to consider the possibility that separating a liberal education from an education in the professions has distinct disadvantages and is not necessary. Further, I contend that a professional education can also be a liberal education.

Proposition

I suggest here that achieving the goals of a liberal education does not require exposure to specific disciplines, but rather to certain manners of thinking. The separation of the liberal arts from the professions and other disciplines has created a historical, but unnecessary, dichotomy. I maintain that this dichotomy is false, and preparation for all of the major professions can accomplish the goals of a liberal education. The fact that training for the health professions does not currently teach these liberal arts skills is a matter of chosen emphasis rather than an intrinsic aspect of professional preparation. Of course, such a hypothesis cannot be fully explored

here or in any single article, nor is it possible to even begin an adequate exploration of its implication. However, I present this paper as an invitation to health professions educators to begin a public, nondisciplinary dialog about the issues raised here.

The Issue

Traditional liberal arts preparation for the professions sets up a false dichotomy, whereby students are presented with one set of academic experiences for their liberal education and a second set of experiences for their professional education program. This sets up the expectation for students, and perhaps educators, that these are 2 different domains. However, this distinction is arbitrary and nonessential. Further, the effects of this false distinction is amplified in current models of advanced training in the professions in that little attempt is made to integrate liberal and preprofessional education, that is, education completed as a prerequisite to entering entry level professional programs. In fact, preprofessional education is often only valued to the extent that it directly supports advanced, didactic professional training. For example, a physical therapist student, by definition a graduate student in America, will be called upon to apply their undergraduate biology training throughout much of their professional education. But where will undergraduate literature course work be called upon during the professional education program? Or, let us assume our students had a more progressive liberal arts education and read some novels and wrote some papers as a part of a more integrated seminar in biology (eg, as part of an Interdisciplinary Studies major at Arizona State University⁷ and elsewhere). What still exists is the very real issue of how learning fostered by this literary experience gets integrated into the students' professional education and training.

A Liberal Education: Part I

To begin to explore the hypothesis of this paper, that professional education can be a liberal education as well, let us first examine the goals of a liberal education. The term *artes liberales*, or *liberal arts*, derives from the Latin *libera*, meaning freedom. In the classi-

cal world, a liberal education was designed to enlarge the mind, cultivate civic virtue, and develop the full human potential so that a human being could be a free citizen. More recently, Martha Nussbaum in *Cultivating Humanity*⁷ speaks of a liberal education as one that liberates the mind, producing world citizens that function with alertness and sensitivity. Clearly, the goals of a liberal education have remained constant; a classic liberal arts education has formed the cornerstone of education for centuries throughout the world. The 7 liberal arts (listed below) were the seeds of classical wisdom that were rescued and preserved by the monasteries throughout the so-called “Dark Ages.” The Renaissance reintroduced them as the curriculum of the first universities where they also served as the basis for the study of medicine and law, 2 of the earliest professions. These liberal arts also flourished uninterruptedly in the philosophy, art, and science of medieval Islam. It can be argued from evidence seen in the sacred canons (eg, measurement, architectural, and artistic proportion) as well as musical scales and calendrical cycles that the liberal arts were also the basis of priestly and shamanic education and practice in practically every premodern culture.

Different historical times and cultures have valued the liberal arts, and people as diverse as Alexander the Great, Thomas Jefferson, and many of the current readers are considered liberally educated individuals. The value of a liberal education has been proven over time, though the formal content of such an education has radically changed. For example, the facts and methods of astronomy and geometry (now geometries) have changed over the years. Consider also a discipline such as psychology, which originally spoke of the soul and truth of God, and now speaks of neurons and hormones. Despite the different content matter, a liberal education has maintained a specific set of goals while welcoming many new disciplines into the cannon. I suggest that just as the goals of a liberal education have been achieved by different subject matter at different times and in different places, these goals can be achieved by focusing carefully on matching the content of contemporary professional education with the desired outcomes of a liberal education. That is, professional education can be a liberal education in and of itself.

To consider the validity of this statement, let us look more closely at the liberal arts. As they were systematized in the Middle Ages, 7 “arts” comprised a liberal education. They were believed to be suited to the various stages of intellectual development and believed to engage all of the human faculties. The 7

liberal arts consisted of 2 parts: the *Trivium* of grammar, logic, and rhetoric; and the *Quadrivium* of mathematics, music, astronomy, and geometry. Once these arts of learning were mastered, the student was considered appropriately equipped to begin the study of the sciences. After this regimen, a student then would begin to study a profession.

Is a Liberal Education Still Relevant?

In modern education, we have grown far away from the traditional liberal education practices. This traditional liberal arts curriculum is from another time and place, and does not deal with contemporary subjects such as literature, art, and psychology, much less computer science and artificial intelligence. It can be argued that many modern subjects such as psychology and artificial intelligence are “applied” or “professional”; however, at issue is more than just new disciplines that may or may not be new exemplars. I suggest we ask: Are the liberal arts truly relevant to contemporary professional education (or indeed for contemporary society), or simply ghosts and distant echoes of outdated doctrines? The enormous differences between the classic and modern world view suggest that we reconsider the methods of liberal arts. That is, are the liberal arts simply interesting philosophies of an outdated, nonscientific world view, or do they truly offer some value to contemporary education? I realize these questions may seem blasphemous, but not asking these questions leads to a situation where we can gain no value from centuries of educational experience because the only comparisons we make between past and present or future are trivial and superficial.

I propose that the liberal arts are critically relevant to today’s professional education. To support this, let us consider not simply the form of a liberal education, but also its goals. That is, does liberal education have a purpose?

Obviously, education today needs to be quite different from that of ancient Rome or the Middle Ages. But the genius of the liberal arts is not as a set of topics or contents but as a method that can encompass all subjects, including the most contemporary. The *Trivium* and *Quadrivium* are not as much discrete subjects as they are modes of learning. The *Trivium* consists of the first three formal subjects of the 7 liberal arts: grammar, logic, and rhetoric. These areas are defined by the *Oxford English Dictionary* as follows: Grammar teaches the skills of reading and writing, but I suggest it can be understood as gathering information and facts, that is, developing knowledge of the matter of interest. The study

of logic serves to develop skills of careful reasoning, and can be understood as arranging and connecting facts and information, that is, the transforming of data into information. We may consider this as developing an understanding of the matter of interest in the sense that knowledge and judgment result in understanding. Rhetoric is the skill of effective—or perhaps we should say persuasive—communication, but more broadly deals with putting this gathered and ordered information into practical expression/action. That is, gaining applied wisdom about the matter of interest. This same procedure of gaining knowledge, developing understanding, and applying wisdom can be considered a meta-cognitive process, applicable not only to the formal subject matter of the liberal arts but also to many other domains, including professional education.

Professional Education as a Liberal Education (an example)

Let us consider the example of how studying physical therapy applies, perhaps unwittingly, the methods of the *Trivium*. We begin by learning the basic facts of human physical function. We learn about the anatomy, physiology, and neurophysiology, as well as mechanics of the human body, and about the anatomy and functions of relevant areas of the brain. These are typically considered the basic didactics of the program. After we know a fair amount of facts, we then begin to discover the logical connections between the facts. We learn about clinical kinesiology, the neurochemical properties of the muscles and the neuromuscular junction, as well as the temporal and spatial relations of human movement and function. And we learn about neural inhibition and potentiation and all the information processing in the distal and central parts of the nervous system and brain. These are typically considered the advanced and clinical didactic course work. After we know a fair amount of the logic/connections of the facts, we then create ways of expressing and applying the facts as part of clinical rotations, internships, residencies, and fellowships. Similar educational experiences also provide, with some obvious differences, training programs for the branch of experimental psychology known as movement studies and human factors as well as certain aspects of cognitive science and robotics. We should note that physical therapist education has much in common with other professional education programs and so the above comments apply to most professional education programs.

We can apply a “liberal arts analysis” not only to health professions education but

also to providing health care. Clinicians are very familiar with the SOAP (subjective, objective, assessment, plan) approach to documenting a clinical encounter. As we use this approach, the subjective and objective aspects involve gathering facts/data, such as the patient's history, including symptoms and physical exam data revealing signs. This can be considered the "grammar" of the encounter. The next step is to organize the facts according to clinical logic and reasoning. This is also where differential diagnosis takes place. This assessment part of the approach can be considered the "logic" of the encounter. The last aspect of the SOAP approach is to create a management and treatment plan. This requires using cognitive abilities to apply the data and logic of the preceding steps to the patient's chief complaint in much the same way as rhetoric is used in the liberal arts. So we see that preparing our students to provide clinical care is, de facto, providing them with a liberal education using a very specific arena separate from but equal to the linguistic arena traditionally used in liberal arts.

Therefore, the Trivium is a concise yet comprehensive paradigm that frames classical thought, but is also quite applicable to contemporary subjects, including the professions. The principles of the Trivium apply to more than just language. Every subject has its own grammar, logic, and rhetoric. To be educated in any discipline, one must know its basic facts (grammar); be able to think in a deep and integrative manner about the subject (logic); and be able to act on that knowledge in a personal, original, and independent way (rhetoric). We may wish to consider professional education as a liberal education, but for a purpose.

A Liberal Education: Part II

After mastering the Trivium, the next phase of a liberal arts education is the mathematical sciences of the *Quadrivium*: arithmetic, geometry, astronomy, and music. These areas ensured that the liberally educated person was capable of engaging all of the faculties of the mind. Plato exalted the *Quadrivium* in *The Republic*^{9,10} as the essential education for the philosopher. He states that the study of these disciplines frees the mind from the "shadows on the cave wall" by awakening it to the intrinsic order of the cosmos. The study of the *Quadrivium* is the study of sequences and order, of links and intersections among data. Therefore, the *Quadrivium* teaches one to recognize patterns.

Good clinical education also trains the student to recognize patterns and series, and requires the ability to see the patient

in a global, integrative manner. In fact, one who possesses these skills is often considered a master diagnostician. Modern health care pedagogies often include evidence-based medicine approaches to train students in similar intellectual domains. We can continue the analysis of the *Quadrivium* with an analysis similar to the one I have presented for the *Trivium*, but I believe the point is sufficiently made.

A Call to Action

I maintain that the liberal arts are valuable not because they are "classic," but rather, they are classic because they offer a comprehensive, universal paradigm for learning. An equally valid and beneficial paradigm for learning is intrinsic in professional education. I suggest that as academic health professionals, we can benefit by considering structuring professional education as a liberal education in and of itself. I challenge the health profession disciplines and educational institutions to consider and enter into dialog about the "added value" for our students, patients, and disciplines that is possible through envisioning a professional education as a liberal education. That is, envisioning professional education as liberal education, but for a purpose. So the question that arises is, How might we do this?

Examples of Allied Health Professional Education as a Liberal Education

The Association of American College and Universities (AAC&U) has long considered what constitutes liberal education in modern society.¹¹ A recent manuscript¹² by AAC&U President Carol Geary Schneider called for educators to summon "... the vision, the will, and the long-term commitment to coalesce innovations already flowering around us into a more intentional, connected, and cumulatively powerful frameworks ... [and] to call these innovations what they are: a twenty-first century vision for an inclusive liberal education." I think we would do well to heed this call, and in fact, allied health education can take leadership here. The bastions of liberal education seem to be concerned with keeping traditional approaches on "life support." For example, Harvard University, which introduced a core curriculum in 1970 as an attempt to ensure a liberal education for all its graduates, is now introducing new college curriculum to revitalize the liberal arts experience. However, as Stanley Katz has noted,¹³ "Not one ... (of these curriculum changes) seems like either a new or very exciting idea." He noted that the Harvard curriculum is a "modest, reformist" ap-

proach. The AAC&U 2002 report *Greater Expectations: A New Vision for Learning as a Nation Goes to College*¹⁴ maintains that, "Liberal education must ... become consciously, intentionally pragmatic while it remains conceptually rigorous..." So, what can health professional educations offer? Returning to Schneiders' document,¹² she describes the new liberal education for the 21st century as one that fosters intellectual judgment, social responsibility, and integrative learning. If we examine health professions training across disciplines, we can define the general goals of allied health education as follows: 1) how to find and use evidence, 2) how to collect and interpret complex data, and 3) how to apply current knowledge to new, often unique, domains. These goals, along with the social responsibility inherent in many health professions' codes of behavior, indicate that health professions training and education fit well not only with traditional liberal arts education but may be considered an exemplar of liberal education for the twenty-first century.

For allied health education to move forward in this area, it is important to carefully examine pedagogies to ensure students are receiving maximum liberal and professional educational benefits from them. I believe allied health education would benefit from heeding the above advice and engaging in public, critical dialog about the future of its pedagogies. For example, evidence-based practice is becoming, or already has become, a dominant pedagogy. Yet, it is not clear that the type of conscious, rigorous discussion and assessment needed to create a paradigm shift has occurred. In clinical psychology, where there has been a similar trend in evidence-based practice, there have been increasing, formal assessments of the value of this pedagogical approach with the conclusion that there needs to be "more refined concepts of evidence-based practice in psychology."¹⁵

Another example is in the area of health care ethics. Much of the literature, which has focused on medicine, psychology, and dentistry, suggest that there are few formal ethical courses offered and most health care students only receive limited exposure to the ethical issues as part of other classes or during clinical internships and residency.¹⁶⁻²² This approach appears to be inadequate.¹⁷⁻²² Most professional organizations stress the need for ethical behavior, yet there is little attempt to provide or assess formal training in this area. Similarly, there is much discussion on the need to develop critical-thinking skills during allied health education²³⁻³³ but to date the literature is disjointed and there is no public, reflective dialog concerning

the general issue of needed skills, effective training for these skills nor appropriate assessment techniques. Another pedagogical bridge between liberal and professional education is service learning.* Allied health education has been involved in service learning long before it formalized in liberal education with the establishment of the National Campus Compact in 1985. (Some may argue that service learning stems back to 1862 when the Morrill Act established Land Grant Institutions or in the early 20th century work of John Dewey or William James.) However, allied health education has largely ignored the role of formal reflective practices such as reflective journals and papers that many believe are the key to service learning. Again, the public dialog has not occurred in this area. A final example is the learning community and the community of practice.† It can be argued that many programs, especially cohort organized programs such as physical therapist or physician assistant studies, are in fact learning communities. However, many of the current issues in this pedagogy—for example, the best type of learning community for our purposes (eg, student cohorts, course clusters, coordinated study), the assessment of the learning community and not simply individual students, etc—are not part of the allied health education national dialog.

A Modest Proposal (With Apologies to Author Jonathan Swift)

I am hesitant to provide further examples as the purpose of this paper is a call to action rather than setting an agenda. Many health professions schools already use evidence-based approaches, learning communities, and service learning, among other pedagogical innovations. Let this manuscript be a call for focused, public dialog on the issues raised here. Many individual departments, schools, and colleges have these discussions in limited, private ways; I suggest it is time to bring these conversations to the broader audience of physical therapy and other allied health educators.

ACKNOWLEDGEMENTS

Preparation of this manuscript was partially supported by the WSU Clifford and Leah Gaulter Memorial Fund. The author thanks

*If you are unfamiliar with service learning, see http://www.compact.org/resources/service-learning_resources/. Accessed June 30, 2008.

†If you are unfamiliar with learning communities, see <http://www.evergreen.edu/wash-center/project.asp?pid=73>. Accessed July 31, 2007.

the commentator and the journal editors for their thoughtful comments and suggestions.

REFERENCES

- Newman JHC. The idea of a university defined and illustrated: I. In nine discourses delivered to the Catholics of Dublin. II. In occasional lectures and essays addressed to the members of the Catholic university. Newman Reader—Works of John Henry Newman. <http://www.newmanreader.org/works/idea/discourse7.html>. Accessed June 30, 2008.
- New York University School of Medicine. Medical humanities Program. <http://med-hum.med.nyu.edu/>. Accessed June 30, 2008.
- Medical Humanities Resource Database. <http://www.mhrd.ucl.ac.uk/>. Accessed June 30, 2005.
- Columbia University. Narrative Medicine Program. <http://www.narrativemedicine.org/>. Accessed June 30, 2008.
- Snow CP. *The two cultures and the scientific revolution*. New York, NY: Cambridge University Press; 1959.
- Sullivan WM, Rosin MS, Shulman LS. *A New Agenda for Higher Education: Shaping a Life of the Mind for Practice*. San Francisco: Jossey-Bass; 2008.
- Bachelor of Interdisciplinary Studies (BIS). <http://www.asu.edu/aad/catalogs/2003-2004/general/duas.html>. Accessed June 30, 2008.
- Nussbaum MC. *Cultivating Humanity: A Classical Defense of Reform in Liberal Education*. Cambridge, MA: Harvard University Press; 1997.
- Plato. *The Republic*. <http://classics.mit.edu/Plato/republic.html>. Accessed June 30, 2008.
- Plato. *The Republic*. New York, NY: Penguin Group; 2003.
- Association of American Colleges and Universities. Liberal education. <http://www.aacu.org/resources/liberaleducation/index.cfm>. Accessed June 30, 2008.
- Schneider CG. *Practicing Liberal Education: Formative Themes in the Re-invention of Liberal Learning*. Washington, DC: Association of American Colleges and Universities; 2003.
- Katz SN. Liberal education on the ropes. 2005. <http://chronicle.com/cgi-bin/printable.cgi?article=http://chronicle.com/weekly/v51/i30/30b00601.htm>. Accessed July 3, 2008.
- Association of American Colleges and Universities. *Greater Expectations: A New Vision for Learning as a Nation Goes to College*. 2002. <http://www.greaterexpectations.org/>. Accessed June 30, 2008.
- Weston D, Bradley R. Empirically supported complexity: rethinking evidence-based practice in psychotherapy. *Curr Dir Psychol Sci*. 2005;14(5):266-271.
- Al-Jalahma M, Fakhroo E. Teaching medical ethics: implementation and evaluation of a new course during residency training in Bahrain. *Educ Health*. 2004;17(1):62-72.
- Aveyard H, Edwards S, West S. Core topics of health care ethics: the identification of core topics for interprofessional education. *J Interprof Care*. 2005;19(1):63-69.
- Christie A. Medical ethics and medical education. *South Med J*. 1973;66(8):859-861.
- DuVal G, Clarridge B, Gensler G, Danis M. A national survey of US internists' experiences with ethical dilemmas and ethics consultation. *J Gen Intern Med*. 2004;19(3):251-258.
- Gomez AJ, Gomez RJ, Luna MA. Is bioethical training useful in preparing doctors to take decisions in the emergency room? *Med Law*. 2004;23(3):551-566.
- Hattab AS. Current trends in teaching ethics of healthcare practices. *Dev World Bioethics*. 2004;4(2):160-172.
- Fox CR, Baig H, Baig H. Ethical training in allied health professions education: current pedagogical approaches. *Assoc Sch Allied Health Professions*. Chicago, IL; 2006.
- Allen D, Bond C. Prepharmacy predictors of success in pharmacy school: grade point averages, pharmacy college admissions test, communication abilities, and critical thinking skills. *Pharmacother*. 2001;21(7):842-849.
- Bartlett D, Cox P. Measuring change in students' critical thinking ability: implications for health care education. *J Allied Health*. 2002;31(2):64-69.
- Boychuk Duchscher JE. Catching the wave: understanding the concept of critical thinking. *J Adv Nurs*. 1999;29(3):577-583.
- Giddens J, Gloeckner G. The relationship of critical thinking to performance on the National Council Licensure Examination for Registered Nurses (NCLEX-RN). *J Nurs Educ*. 2005;44(2):85-89.
- Spelic SS, Parsons M, Hercinger M, Andrews A, Parks J, Norris J. Evaluation of critical thinking outcomes of a BSN program. *Holistic Nurs Pract*. 2001;15(3):27-34.
- Stewart S, Dempsey LF. A longitudinal study of baccalaureate nursing students' critical thinking dispositions. *J Nurs Educ*. 2005;44(2):81-84.
- Vendrey A. Critical thinking skills during a physical therapist professional education program. *J Phy Ther Educ*. 2005;19(1):55-59.
- Wessel J, Williams R. Critical thinking and learning styles of students in a problem-based, master's entry-level physical therapy program. *Physiother Theory Pract*. 2004;20(2):79-89.
- Williams KB, Glasnapp DR, Tilliss TS, et al. Predictive validity of critical thinking skills for initial clinical dental hygiene performance. *J Dent Educ*. 2003;67(11):1180-1192.
- Freeman JW, Wilson AL. Virtue and longitudinal ethics education in medical school. *S D J Med*. 1994;47(12):427-430.
- Zettergren KK, Beckett R. Changes in critical thinking scores: an examination of one group of physical therapist students. *J Phys Ther Educ*. 2004;18(2):73-79.