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Assessing the Liberal Outcomes of Professional Education

A major difference between a university and a training institute is the university's requirement that students complement their professional major with liberal education, the outcomes of which are generally assumed to be the development in students of higher-order thinking, a critical system of values, and the skill to communicate that thinking and those values. Faculty in the professions are beginning to realize that these outcomes are not achieved by means of loosely articulated requirements in general education, but are in fact the foundation of good professional education. The task before them is to articulate professional expectations for liberal outcomes, and then to take the responsibility for developing and assessing the outcomes within the professional curriculum.

Six years ago we worked on a project that was designed to articulate the general education outcomes of baccalaureate programs in our large, urban university. The project developed in response to the attention being paid to perceived educational deficiencies in American higher education, deficiencies which were blamed primarily on fragmented and incoherent general education curricula. Various national reports deplored the apparent inability of higher education to develop in our students the knowledge, skills, and attitudes traditionally associated with liberal education, such as skills in communication and critical thinking and the development of ethical and social responsibility. When the project began, it was not uncommon to find faculty in the professional schools who had literally never considered their responsibility for assisting students in the development of such skills and attitudes. On more than one occasion, we heard something like the following: "It's not my fault that my [professional] students can't write. The English department isn't doing its job." In the most extreme cases, these faculty would not acknowledge, and apparently had not considered, that the writing requirements for a professional social worker, for example, might be somewhat different from those for an architect, or that the communication skills required in a hospital pharmacy might differ from those required in a boardroom.

During the 1980s, national education advocates set the stage for a reconsideration of such attitudes. They challenged the long-held assumption that the knowledge, skills, and attitudes that we believe distinguish an "educated" person from one who is merely "trained" are developed outside the professional curriculum: "over there" (as one educator in a professional school referred to the college of humanities and sciences) as opposed to "over here" (the professional school). In the 1990s new attitudes and practices are developing, and it is the intent of this article to describe the changes. In it we will briefly describe our view of liberal learning, then will address ways of conceptualizing liberal education outcomes within professional curricula, and will conclude with current examples of how such outcomes are beginning to be assessed within professional programs.

Liberal Learning Defined

A major difference between a university and a training institute is the university's requirement that students complement their professional major with liberal or general education. This requirement rests on the usually unchallenged but widely held assumption that liberal studies will provide students with knowledge, skills, and attitudes that will equip them to function as educated and responsible citizens in a complex world. It is assumed that liberal studies will lead to the attainment of the lofty goals for students so eloquently expressed in every university bulletin. Most often in large universities, liberal studies mean general education requirements, which themselves are defined merely in terms of breadth of exposure to entry-level survey courses in science, mathematics, social sciences, humanities, and fine arts. These general education requirements usually comprise 25 to 50 percent of the students' courses, but frequently are perceived by students as having little relationship to their professional studies. Students are allowed to choose from a dizzying array of courses, which all too often are selected for entirely the wrong reasons ("I heard it's a gut course"; "It fits my schedule"; "My girlfriend and I can take it together"; "It doesn't require any writing"). A smorgasbord of general education courses, carelessly chosen, may contribute serendipitously to liberal learning, but certainly cannot comprise it. Liberal learning and the outcomes that result from it are clearly both broader and deeper than loosely articulated general education requirements.

Liberal learning is bigger than general education requirements, but what is it? Philosophers and educators throughout history have addressed it in various ways: as attitudes toward life and learning, as intellectual openness and flexibility, as a complex of higher-order skills in communicating and thinking, as the proverbial "inquiring mind." It is our view that liberal learning encompasses all of the above, and that it runs through not only the traditionally identified liberal studies curricula, but provides the very essence of sound professional education as well. We believe the primary purpose of liberal learning is to develop in students critical thinking skills and a reliable and meaningful set of values. These goals include at least the ability to reason without being overpowered by

personal bias and experience, the ability to evaluate others' opinions, the ability to marshall evidence, the ability to communicate effectively, and the development of ethical decision making and responsible behavior. Clearly necessary also is the development of a context for thinking, which implies the necessity to be widely exposed to the content and processes of all the traditional (and nontraditional) disciplines as well as to the various contexts and processes within the disciplinary or professional major. Students who master the outcomes of liberal studies will exhibit habits of mind and behavior that make intellectual activity and professional involvement personally joyful and societally enriching.

Liberal learning primarily fosters higher-level thought, a critically evaluated values system, and the skills to communicate the results of the thinking and the values. It facilitates the search for truth and the making of meaning. Additionally, but secondarily, it values the best of culture and encourages the preservation and use of the literary and artistic products produced in our society. It also prepares students for active roles in our community and government.

The development of widely accepted goals for liberal learning go a long way toward helping faculty in the professions agree that they are not the sole province of general education, but in fact provide the very core of professional education as well. Even professional accreditation standards in a variety of professions espouse liberal learning goals, but few have found the means to integrate liberal studies into the professional curriculum, and even fewer have begun to assess students' attainment of them. For example, in an eloquent statement of the "essential knowledge" in the preparation of engineers, Francis J. Cashin, 1989 President of the Accreditation Board for Engineering and Technology (ABET), acknowledged the importance of liberal learning for engineers:

> "We all recognize the need to educate our new engineers in the finest tradition of a well-versed person. The need to learn about other cultures, languages, and customs is now essential to the practice of engineering. The seeds to this global awareness are planted in college education.
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> "From philosophy, we engineers must obtain the working tools of logic and reasoning. We need such essential elements in our education, together with principles of accounting, the concepts of management, and the basic theories of economics. Engineers are by their nature managers and team players in dealing with the productive industries of the world but should be exposed to the latest techniques used in practice. Of utmost importance is the need to understand the values of professionalism and ethics because of the engineer's profound effect on human society and the environment. This also requires an understanding of the principles of Roman and English law." (ABET, p. 6)

Accreditation standards in ABET clearly support the attitude expressed by Cashin, as they stress problem solving, sensitivity to social issues, ethical understanding, responsibility for health and safety, written and oral communication skills, and an attitude that supports lifelong

learning. These standards demand an integrated educational experience, yet curriculum requirements outside of specific engineering courses are limited to 32 credits in mathematics and science and 16 credits in humanities and social science. We can infer that the liberal goals should be integrated into the engineering courses themselves, but there is no discussion of how this should happen, and no discussion of assessment of outcomes. How far the professions have to go in identifying, developing, and assessing the liberal goals within the professions is clear when we realize that in comparison with many professional accreditation standards, those in engineering are enlightened. They at least articulate liberal learning goals, although they leave individual programs with the unspoken challenge of addressing them.

Linking Liberal Learning and Professional Education

Closing the gap between rhetoric and practice requires that faculty from liberal studies and the professions collaborate to confront the "over there" versus "over here" attitude that is still too prevalent across our campuses. And once collaboration results in articulation of liberal learning goals within professional education, assessing student attainment of such goals provides an even greater challenge. Liberal education goals, which are often both lofty and dependent on behavior that occurs long after commencement, are hard enough to assess. Assessing them within the professional program is even more difficult.

A major step toward integrating liberal and professional goals, and expressing them in concrete language, was made by the Professional Preparation Project (PPP), directed by Joan Stark and Malcolm Lowther of the University of Michigan and funded by the Fund for the Improvement of Postsecondary Education. In this project, teams of faculty and administrators from both the liberal arts and baccalaureate-granting professions gathered and discussed ways of breaking down curricular barriers, with the goal of the project being to enhance professional studies through a meaningful integration of liberal studies. Teams, each consisting of an educator in an undergraduate profession and an educator from the liberal arts, from twenty colleges and universities met together over two years to discuss the common liberal outcomes of professional education and to translate their learning into action on their home campuses. The group's report, *Strengthening the Ties That Bind: Integrating Undergraduate Liberal and Professional Study* (1988), provides a blueprint for cooperation. Although complete agreement as to the outcomes and their definitions was not achieved by the participating faculty, the ten outcomes (Table 1) identified by the project provide us all with a starting point in our own attempts to integrate liberal outcomes into professional curricula. They even provide the statements against which we might devise strategies for assessing student attainment. Note that these ten outcomes are those that liberal studies and professional education share. They do not include outcomes that are valued in liberal studies but may not apply specifically to professional education, nor do they include traditional professional competencies (e.g., technical competence in the field). The ten shared

Table 1: Professional Outcomes in Common with
Liberal Education

Communication Competence   The graduate can read, write, speak, and listen effectively to acquire, develop, and convey ideas and information.

Critical Thinking   The graduate examines issues rationally, logically, and coherently.

Contextual Competence   The graduate understands the societal context (environment) in which the profession is practiced.

Aesthetic Sensibility   The graduate will have an enhanced aesthetic awareness of the arts and human behavior for both personal enrichment and application in enhancement of the profession.

Professional Identity   The graduate acknowledges and is concerned with improving the knowledge, skills, and values of the profession.

Professional Ethics   The graduate understands and accepts the ethics of the profession as standards that guide professional behavior.

Adaptive Competence   The graduate anticipates, adapts to, and promotes changes important to the profession's societal purpose and the professional's role.

Leadership Capacity   The graduate exhibits the capacity to contribute as a productive member of the profession and to assume leadership roles as appropriate in the profession and society.

Scholarly Concern for Improvement   The graduate recognizes the need to increase knowledge and advance the profession through systematic, cumulative research on problems of theory and practice.

Motivation for Continued Learning   The graduate continues to explore and expand personal, civic, and professional knowledge and skills throughout a lifetime.

outcomes define the liberal outcomes that professional preparation programs generally subscribe to, though often not explicitly. The report suggests methods whereby the outcomes, of which some are competencies and others are attitudes, can be achieved across disciplinary lines.

Following the project's end, we invited some of the participants to tell the stories of how they were beginning to integrate liberal outcomes into professional programs. These are published in a New Directions for Teaching and Learning volume entitled *Integrating Liberal Learning and Professional Education* (1989). Undergraduate professional programs discussed include architecture, business, education, engineering, journalism, nursing, pharmacy, and social work. In each of these essays, the common ground between the profession and liberal studies is explored, and in some cases, suggestions for integration are included. None of the essays, however, addresses the thorny issue of assessment of the outcomes.

A project with similar goals was conducted at Syracuse University, under the leadership of Peter Marsh. In this program, faculty from across the campus discussed ways of breaking down barriers between liberal

and professional education. Through their collaboration, faculty identified concepts or themes of interest that run through all fields of learning. The first was the compound phenomenon of professionalism; the second was the notion of objectivity, as pursued by each discipline or profession; the third had to do with the skills and craft that distinguish the disciplines or professions; and the fourth revolved around the idea of "embeddedness." These foci remained abstract, but nevertheless formed the basis of significant curriculum reform throughout the university.

A final example of attempts to integrate liberal outcomes into professional education is found at our own university, Virginia Commonwealth University in Richmond, Virginia, where the two-year curriculum project referred to at the beginning of this paper resulted in the articulation of eight outcomes of general education that all baccalaureate-granting programs are expected to develop in their students (Table 2).

Table 2: General Education Outcomes at Virginia Commonwealth University

1. Students should be able to **read knowledgeably** and to **write effectively.**

2. Students should **achieve competency in basic mathematics**. They should **achieve an understanding of basic concepts in mathematics, statistics, and computing**, which are required in understanding and solving modern technological problems.

3. Students should **achieve literacy in science** by studying the process, concepts, and significant details of modern experimental science. They should also **develop an appreciation of the role of science** in the development and functioning of the modern world.

4. Students should **acquire an understanding of their social environment and the way it changes**. To this end they should **develop an understanding of the theoretical perspectives, key concepts, and methods of analysis** of at least one social science.

5. Students should **develop a fuller appreciation of the human condition and its historical dimensions** through the study of those disciplines traditionally associated with the humanities. Humanities courses should require **critical reading, thinking, and writing**.

6. Students should **develop an understanding of the diversity of value systems of aesthetics and ethics** in our world and the role they play in our public and private lives at both the professional and personal levels. Students should be able to **examine critically such systems and beliefs, to form rational arguments and judgments** relative to aesthetics and ethics.

7. Students should **develop an understanding of cultural diversity as shaped by gender, ethnicity, language, history, and tradition**, through the acquisition of knowledge and skills that will enable students to interact constructively with culturally diverse people.

8. Students should **develop the habit of self-exploration**, enabling them to become lifelong learners.

These are published in the *Undergraduate Bulletin* of VCU, and have begun to serve as the basis for attention from curriculum committees, both the university-wide undergraduate curriculum committee and more specific school and departmental curriculum committees. At VCU there is no core curriculum, and a long tradition of professional autonomy has mitigated against the development of one. Thus the general education expectations are written in the language of student outcomes, and individual schools and departments are at liberty to further define them, to address them in their respective curricula, and to assess them in ways that are most meaningful.

Assessment of Liberal Learning

The ideals inherent in all discussions of the outcomes of liberal learning often make assessment of them difficult at best. For example, the PPP outcomes of adaptive competence, scholarly concern for improvement, and motivation for continued learning can be adequately evaluated only long after the students have graduated from the program, perhaps only at the very end of their lives. We have heard not-so-facetious comments that only death-bed assessments would be truly valid. But even they, we argue, would not provide us with the best evidence of our impact on our students, as we could not eliminate the influence of the intervening years of life and profession. Thus we are stuck with assessing these often abstract ideals in real time with real students, real alumni, and real employers. We need to begin, then, with what is most real to those of us who teach in the programs that prepare our upcoming professionals.

At Virginia Commonwealth University, we have taken the next step and articulated that the eight goals of general education are the responsibility of everyone involved in undergraduate education, and that they cannot be laid solely at the feet of the College of Humanities and Sciences. In honoring program and school autonomy, the goals are perceived to apply to every undergraduate program. However, they may be interpreted differently in different programs. Each school has been charged with the responsibility of further articulating the goal statements, prioritizing them in relation to professional expectations, and assessing their students' attainment of them. Assessment of general education outcomes in this way is designed to accomplish two objectives: (1) it should document that students are graduating with the basic skills identified in the eight goal statements, and (2) more importantly, it should encourage faculty to raise questions, verify hypotheses, and point to needed changes in teaching and curricula.

Although the charge to the schools to develop assessment plans for general education outcomes has, at this writing, occurred only recently, several schools and programs have already begun to address at least some of them. Clearly, the easiest place to begin has been with the outcome related to effective writing. We have heard no professional faculty in the last several years denying their responsibility to assist in the development of their students' writing skills. For example, in the School of Social Work,

all seniors are required to submit four professionally oriented writing assignments in their senior capstone course. These are graded for the course, and a second, anonymous copy is collected for later review by a faculty team that has been trained in the holistic scoring of writing. The findings from the team analyses are used to develop writing assignments throughout the Bachelor of Social Work curriculum and to train social work faculty in the teaching of writing. In the Department of Urban Studies, student papers were assessed for writing competence, with the immediate result being the development of a departmental writing protocol that is used in all courses in the department. Departmental faculty continue to assess student writing against the protocol, and have already noted major improvements in the quality of their students' writing.

In the School of Business, a case study written for a senior course is graded for the course by two different faculty. The content of the paper is evaluated by the course instructor, but the writing is evaluated by the instructor of a prerequisite course in business communications, a course in which the writing of a case study was specifically taught. The evaluations of writing are used to revise the writing course and to inform writing assignments throughout the business curriculum. In this manner, students are led to integrate the content of one course with that of another, and the instructors are required to collaborate in their understanding of their expectations for students. Additionally, faculty in several disciplines have engaged faculty in the composition program to help them learn both to assess writing and to teach writing to their majors. Finally, the very existence of the outcome statement spurred a discussion of writing competence among the faculty of the entire School of Community and Public Affairs, and they increased the emphasis on writing throughout the curriculum, even before they carried out a formal assessment of writing. In the words of one of the faculty, "We knew we weren't satisfied with students' writing, but until now there was no real impetus for doing anything about it. Most of us just hid under the cloak of not being English teachers."

These examples of professional faculty assuming responsibility for teaching writing within the major or profession provide an introduction to fully integrating and assessing liberal outcomes within the professions. Just as the development of writing is being seen as the responsibility of faculty in the professions and disciplines, so too are the other liberal outcomes. Ethics and values, for example, can be taught in the department of philosophy only in the abstract; applied ethics must be developed within education in the professions, where the norms of the profession, and the justification for those norms, are within the province of the faculty. Professional ethics go beyond philosophy, and must be developed through professional dialogue and practice developed in the context of professional dilemmas. A journalist's decision to reveal or not reveal the identity of a source, for example, assumes a thorough understanding of the profession's history and mores as well as the ability to weigh competing responsibilities to various "clients." Whereas a grounding in ethics as taught by a philosopher may be helpful, it is certainly not sufficient for reliable ethical decision making in a particular professional instance.

In addition to the development of written skills, values, and ethics, the skills of critical thinking are important liberal outcomes. Whereas critical thinking is broadly conceived as the application of appropriate, higher-order thinking skills, there is common agreement that the ability and the willingness to use such skills are best developed within a specific context: future teachers develop them best in an educational environment, while future physicians develop them best within a medical environment. Future physicians, for example, use microcomputer and videodisc technology to practice decision-making skills in simulated patient-care environments. Nothing is more dramatic than being asked to make a series of medical decisions, with each decision followed immediately by its consequences. "Patient dies" leads the student to the immediate re-examination of the quality of his or her thinking.

Although it is too early to specify the lessons learned from these fledgling experiments in assessing the liberal outcomes of education in the professions, we offer an observation and a challenge. Faculty in the professions have recognized that they are responsible for more than narrow technical education knowledge and skills. However, they often have difficulty articulating how liberal outcomes might be integrated into professional curricula, and even more difficulty thinking about assessing those outcomes. The place to begin is with conversations about liberal learning itself. The concepts of higher-ordered thinking, a critically evaluated system of values, and the skill to communicate that thinking and those values within the profession offer a beginning for the discussions.

Suggested Readings

Accreditation Board for Engineering and Technology. *1989 Annual Report.* New York: Accreditation Board for Engineering and Technology, 1989.

Armour, R. A. and B. S. Fuhrmann. *Integrating Liberal Learning and Professional Education.* New Directions for Teaching and Learning. San Francisco: Jossey-Bass, 1989.

Armour, R. A. and B. S. Fuhrmann. "Liberal Learning." In *Educating Professionals*, edited by Lynn Curry and Jon Wergin. San Francisco: Jossey-Bass, Forthcoming.

Marsh, Peter T., ed. *Contesting the Boundaries of Liberal and Professional Education: The Syracuse Experiment.* Syracuse: Syracuse University Press, 1988.

Stark, J. S. and M. A. Lowther. *Strengthening the Ties That Bind: Integrating Undergraduate Liberal and Professional Study.* Ann Arbor: The Professional Preparation Network, The University of Michigan, 1988.