



General Culture and the Academy versus Liberal Education: What's at Stake?

Dominic A. Aquila, Trustee-American Academy for Liberal Education*

Any liberal arts undergraduate curriculum worthy of respect encourages students to integrate their learning. As we know, such integration is a high order skill and a challenge to achieve for students and educators alike. For integration is ultimately something a student does. It is an interior process, helped along by well-designed and well-functioning curricula and faculty who are skilled in facilitating integrative thinking. Beyond this fundamental pedagogical fact, another challenge to achieving the integration of knowledge is the well-known and much discussed pressure on undergraduate programs, very often from graduate and professional schools, to prepare students early on for entry into particular fields of study. The urge to specialize, especially in professional programs, can be a powerful counterforce to integrative learning not only for practical considerations—its demands occupy more and more space in the curriculum, but also because it is inherently attractive to students, carrying with it the rewards associated with success in the professions. To be sure, the benefits of specialized training and education do not accrue only to individual students, but also to society as well. The expansion of specialized knowledge, particularly in medicine, engineering, and in other natural and applied sciences, continues to improve the quality of life and the standard of living for millions of people, and is therefore something of great value that ought not to be diminished.

Yet the stakes are high and the benefits great on the side of an integrated undergraduate curriculum. In an influential article for *Commonweal* published in October 2006, with the apocalyptic title, “The End of Education: The Fragmentation of the American University,” Alasdair MacIntyre asked: Who ought to be concerned about the integration and unity of knowledge? “Anyone who thinks it important what conception of human nature and the human condition students have arrived at by the time they enter the adult workplace.” The natural and social sciences and the humanities each contribute significant knowledge about the human person and the human condition. But no one of these disciplinary clusters can answer all of the questions that arise about ourselves and the environment in which we live without doing violence to the richness of human existence and experience.

Given that specialized education and integrated learning are both high stakes undertakings for post high school education with profound societal implications, we need both. Thus the problem of negotiating the demands of specialization and integration requires *both/and* thinking and solutions, not

either/or. But those who accept the challenge of realizing this *both/and* solution immediately confront an imbalance in the understanding and accepted pedagogy related to specialized, professional learning, on the one hand, and integrative learning, on the other. The standards are very well known for what students need to know in the way of specialized knowledge in order for them to progress successfully in particular fields of study, such as business, law, medicine, engineering, accounting, education, nursing, among many others. These standards are closely supervised and revised continuously by specialized accrediting agencies and professional organizations in various fields, for example, The Association to Advance Collegiate Schools of Business (AACSB) for business education, the American Bar Association for education in the law, and the American Medical Association for medical education.

Given the premiums and demonstrated benefits associated with professional education, it is not surprising that it receives such sustained attention. The same cannot be said of integrative learning. To be sure, there are conferences and associations such as the Association of General Education, the Association of Core Texts and Courses, the Association of American Colleges and Universities concerned to some degree with integrated learning. But the broad consensus on standards one finds in the sphere of specialized, professional education is yet to be established for integrated education in part because the case for the societal costs and benefits associated with integrated learning has not convincingly been made, notwithstanding Alasdair MacIntyre's point quoted above.

But there are indications that a case for integration, in the form of interdisciplinary and multidisciplinary collaboration is emerging, prompted in part by a recognition that specialized, siloed education has its limits, and may in fact present real obstacles to the advances in knowledge that have benefitted and sustained our way of life. Nanotechnology, for instance, is an emerging field whose practitioners range across the natural and applied sciences. "Is it physics? Is it biology? Is it chemistry?" asks Dexter Johnson on a widely read engineering blog. "Or is nanotechnology all of the foregoing and many more disciplines? So has gone the line of questioning for those who [seek] to get a handle on nanotechnology, i.e. how to define it and how to train and educate a new generation of scientists around it."¹

Another example of this new sort of integration applies to the natural sciences and beyond. In *Five Minds for the Future*, Howard Gardner argues that integrative habits of mind and the ability to synthesize are indispensable for successfully confronting a range of pressing problems and challenges

¹ <http://spectrum.ieee.org/nanoclast/semiconductors/nanotechnology/multidisciplinary-nature-of-nanotechnology-confirmed>

before us in the twenty-first century. For Gardner, the mark of “the synthesizing mind,” is “the ability to integrate ideas from different disciplines or spheres into a coherent whole and to communicate that integration to others.”

These examples of integration are laudable and begin to assemble the components for a compelling public case for sustained, disciplined attention to integrative learning. At minimum, as Dexter Johnson says with respect to the natural sciences, they are welcome steps toward reversing “the specialization spiral science has been in for the last half century,” and an encouragement for “more broadly trained scientists.” But it is important to see that the emerging case for integration in the foregoing examples is different in nature from the traditional model of integration associated with a classical liberal arts education, the model we have typically relied upon to integrate learning. The new integration is problem-based, exteriorly driven, and principally directed toward *action*. The classical, liberal arts conception of integration is essentialist, interiorly constructed and it informs one’s very *being*. The new integration does not require agreement on a set of first principles for action, typically the problem determines the kind and the degree of integration, and most often does not require an understanding of the relation and ordering of the disciplines in dialogue with one another. But most classical conceptions of integrated learning presuppose a certain unity in the created world that supplies the foundation for comprehending a unity of knowing, such that in studying one discipline, the student is confident that what he or she learns there is integrally connected to a broader sphere of knowledge. In the words of John Henry Newman, the most eloquent expositor of this classical, essentialist view of integration, “all knowledge forms one whole, because its subject-matter is one; for the universe in its length and breadth is so intimately knit together, that we cannot separate off portion from portion, and operation from operation, except by a mental abstraction.”

In the classical, essentialist view of integrated learning, the principle of the unity of all knowing, is not a trivial concern, nor is it an incidental advantage over the new, problem-based integration, rather it guarantees the veracity of what one knows in a particular discipline. Indeed, inasmuch as the human mind cannot have access to the whole of knowledge except through an understanding of its parts, the beginning of knowing must start with a particular disciplinary study. With essentialist integration one begins such study trusting that there is an organic relation and a unity between the knowledge gained from his or her particular discipline and the totality of all possible disciplines. In Discourse III of *The Idea of a University*, Newman writes: “These various partial views or abstractions, by means of which the mind looks out upon its object are called sciences.” These “sciences” participate in “one and the same circle of objects, they are one and all connected together; as they are but aspects of things, they are

severally incomplete in their relation to the things themselves, though complete in their own idea and for their own respective purposes; on both accounts they at once need and subserve each other...the systematic omission of any one science from the catalogue prejudices the accuracy and completeness of our knowledge altogether, and that, in proportion to its importance.”

In line with Newman’s thinking, the goal of an essentialist, integrative pedagogy is helping students develop a “philosophical” sense, which is not reducible to the studies associated with the modern, academic discipline of philosophy. It is rather philosophy understood as “the science of sciences,” or an “architectonic science.” In Newman’s words, “the comprehension of the bearings of one science on another, and the use of each to each, and the location and limitation and adjustment and due appreciation of them all, one with another, this belongs, I conceive, to a sort of science distinct from all of them, and in some sense a science of sciences, which is my own conception of what is meant by Philosophy, in the true sense of the word, and of a philosophical habit of mind.” The “science of sciences” for Newman is not a particular discipline in itself, “but *the* discipline which makes it possible for a person to see the relation of truth to truth, and all truth as a unity.”

In distinguishing between two modes of integration in this short paper- the one problem-centered, the other essentialist--my hope is to point to an opportunity and suggest a new point for the dialogue in emerging fields wherein interdisciplinarity is fundamental to their project. For to sustain successful and authentic interdisciplinary collaboration, the participants in the dialogue must move the horizon of integration beyond the immediate utility of solving the problem at hand. Classical liberal learning that imparts “the philosophic sense” as Newman understands this term, prepares those engaged in interdisciplinary dialogue to enter imaginatively into the disciplinary perspective of others with no sense that the other’s discipline is a threat to the veracity of his or her own disciplinary perspective. Both have a different but still significant purchase on the truth of things. Thus, among its many other compelling features, Newman’s “philosophic sense” can be useful in disarming the guarded suspicion associated with disciplinary territorialism, which can undermine any attempt at fruitful integration.

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