The Liberal Education of Science Majors

Frank Ward

Grand Valley State University

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The Liberal Education Of Science Majors

Without doubt, science and technology deliver a somewhat immeasurable effect upon the inhabitants of this world. In my particular area of expertise, health professions, science provides an understanding of the human body that was not even imagined 50 years ago. But is that scientific realm of understanding enough for students to pursue a career in the healing arts? My contention is that it not only is not sufficient, but that it could lead to indirect (i.e., emotional, spiritual) harm to the very persons that came to us for comfort. Let me emphasize strongly that I don't believe we are graduating any students that are dangerous to patients, just many who may not be seeing the entire picture—from a liberally educated perspective, that is.

The impetus for my argument comes from my involvement last winter in the Liberal Education Initiative sponsored by the Provost. We discussed a myriad of topics regarding liberally educated people including such broad qualities as the ability to comprehend the world around them, to organize a problem and discuss its parts, and to analyze their motives while cultivating that awareness in others. In essence, liberal education helps people make sense of the world around them. All of this discussion seemed to beg the question, at least in my discipline, of whether or not our graduates could really do all those things, in theory as well as practice. Or, are we just graduating health professionals with an abundance of facts and figures and little else? While I am not explicitly trying to assign fault, for the source may be all encompassing, we do need to encourage the need for liberal approaches in science courses.

Further clarification may be appropriate. First, what constitutes a liberal education? Does it mean one can communicate effectively, think critically, or learn experientially? Is it a person that is capable of appreciating a wide range of ideas and different perspectives? Is a liberally educated person one who has an open-minded approach to all learning and accepts the notion that it is lifelong? Does that in turn mean a liberal education provides a firm enough foundation that a person is able to analyze problems and all the values life espouses truly a translate into responsible citizens? A simple example: Suppose a clinician's culture and fails to value cultural beliefs (e.g., spiritual) prognosis and treatment may be effective in more ambiguous of a case, as important to the may even result in a treatment plan being the patient's perspective.

From the faculty's perspective, more than one can do. workload of at least 30% Program, Themes, and an array of cultural at least a proper curriculum. Do we help students to not a waste of time? Are we inculcating the curriculum one really understands knowledge? My believe the job of connecting or value of a liberal.

So how do we do it?

While I certainly will proffer a few events on campus offered equally at
to analyze problems, remain self-directed, and integrate all the values life has to offer? Is the liberal education we espouse truly a transforming experience that develops responsible citizens? Again, I am not saying that we graduate students who can't think open-mindedly, but are they really connected? Do they see the forest or the trees? A simple example from my discipline may help. Suppose a clinician is examining a patient from another culture and fails to take into account the patient's cultural beliefs (e.g., spiritual, emotional) when addressing prognosis and treatment. While treating just the disease may be effective in alleviating symptoms, what of the more ambiguous emotional indicators that may be just as important to the patient? An incident of this sort may even result in a patient not properly following a treatment plan because the clinician didn't see it from the patient's perspective.

From the faculty perspective, time is certainly a precious commodity. The simple fact that Grand Valley has more than one campus is likely to have an impact on the workload of at least some faculty. Many General Education and Theme courses do take more time to present. It is often much easier to simply lecture and "cover" what is necessary. Does that render lecturing a faculty addiction? To be fair, Grand Valley has a good process in place for presenting a liberal education perspective. There is, in no specific order, the General Education Program, Themes, Service learning, Freshman seminar, a variety of cultural and artistic festivals, and the Honors program. But, are we clearly communicating the vision of why we prefer this approach to education? Do we properly integrate that vision into the students' life? Do we help students see that liberal education is not a waste of time? Are we challenging students sufficiently? Are we inculcating ethical and multi-cultural ideas into the curriculum or simply teaching facts? Do students really understand the connections between areas of knowledge? My belief is that we don't do a satisfactory job of connecting the curriculum and the importance, or value, of a liberal education.

So how do we deal with this somewhat daunting task? While I certainly do not claim to have all the answers, I will proffer a few suggestions. Perhaps more cultural events on campus, especially across the curriculum and offered equally among the several campuses, would...
address some of the issues. Clearly more diversity would add to the collage of the student body, but that is one of the tougher issues to address. Transforming theory more into practice might force students to consider issues from multiple perspectives. Even having students with a different worldview than the instructor’s would embrace a small cultural change. While faculty certainly need to be available, more support is needed for faculty teaching “tough” classes. Stronger capstone courses, or perhaps an entirely different approach would suffice. Faculty should create better connections between what they teach and lifelong learning. Maybe even encouraging all faculty to teach general education courses would diffuse some of the misconceptions. And finally, the specialization of some of our professional education, primarily graduate, has seeped into the education system in general. Indeed, what effect does the movement of health professions programs downtown, and closer to the medical establishment, have upon the influence of teaching from a liberal viewpoint? Obviously, this is no small challenge, but we owe it to tomorrow’s citizens to prepare them for lifelong thinking, ethical practice, and cultural sensitivity.

As you can see, I have proposed a number of questions, and a few potential remedies, that probably do not have easy solutions. But, if you don’t ask the right questions you will never get the right answers. So I will finish with these last few and, hopefully, start the debate. Are the necessary conditions for implementing such a change in existence? Will faculty see such commitments as time-consuming? Will administration see this change as a threat to Grand Valley’s competitive advantage? Certainly, improving the education of our graduates will require changing the internal incentive structures of our institution. Should that change come from within each college? Will the diversity among departments, or lack thereof, limit the candid action needed to address the issues? More specifically, should there be a discussion about exactly what students should know and some exploration of how we discover what they have learned? Perhaps what is needed is a shared vision of educational professionalism that would convey a collegial commitment to student learning.

Liberal Education
The purposes of higher education include everything from research and advanced training of students for entry into the professions, from enhancing the status of the humanities to the preparation of students for training as practitioners in this marketplace of opinion. The importance of liberal education was intended to counter the ideas that the Enlightenment and the values which were developed during the time of the European 18th centuries. Arguably, a university, in the context within which this document is written, the university may serve a broader purpose.

Consider for a moment the purposes of the university. Its openness, inclusiveness, and inclusiveness are indispensable. A University is characterized in that it must seek truth in pursuing truth.

The pursuit of truth flourishes only where freedom of thought can be conducted without intimidation or constraint. That freedom of thought is an indispensable condition. That a thoughtful inquiry can be conducted only where there is respect for the opinions of others. That respect for others’ opinions is an indispensable requirement. That tolerance for the exchanging of ideas is a mental requirement. These are sentiments first penned by American.