Liberal Arts and Sciences Education: Responding to the Challenges of the XXIst Century

Jonathan Becker

Jonathan Becker
Vice President for Academic Affairs Bard College. Address: Bard College, Annandale-on-Hudson, NY 12504–5000. E-mail: jbecker@bard.edu

Abstract. This essay has two primary goals. First, it seeks to define liberal art and sciences as a system of higher education that involves curricular breadth as well as depth, student-centered teaching and academic and administrative structures which facilitate learning. Second, it makes the case for liberal arts and sciences education and why it responds to the demands of the XXIst century. The essay is informed by experiences of liberal arts and sciences education not only in the United States, where it has found its greatest influence, but by the growing movement to experiments in Europe, Russia, the Middle East, and Asia. At its core, liberal arts and sciences education is concerned about the development of students and their capacity to learn, to express ideas and communicate effectively, and to adapt to changing circumstances. In countries where vocational training, hyper-specialization and didactic pedagogic approaches dominate higher education, liberal arts and sciences education can offer an alternative that will resonate among students and faculty. It is not an easy system to adapt, but for many, the rewards have been well worth the investment.
Key words: higher education; Liberal Arts and Sciences; interdisciplinary; innovation; modernization; student-centered learning.

DOI: 10.17323/1814–9545–2015–4–33–61

Received in April 2015

Introduction

In recent years, policy makers and education leaders across the globe have been confronted with a series of challenges related to the future of higher education. Often the focus is financial, from the cost of teaching and tuition to the short-term employability of college graduates. In many cases solutions to perceived problems lead to market-based approaches that emphasize technological efficiencies, such as Massive Open Online Courses (MOOCs), and calculated choices that emphasize winners and losers based on the latest employment trends. “Strategic majors,” such as business, science, technology, engineering, and health, are emphasized while “non-strategic majors,” such as anthropology, philosophy, history, and literature, are squeezed and deprived of funds [Marcus, 2013]. This movement is

The original text was provided by the author to the Editorial of the journal Educational Studies

particularly strong in the United States, where liberal arts and sciences education is most embedded in the educational system. Florida Governor Rick Scott reflected this attitude, which is felt particularly strongly in state houses, when he said bluntly, "If I'm going to take money from a citizen to put into education, then I'm going to take that money to create jobs' [Jaschik, 2014].

Paradoxically, while pressures growin the United States, many educators around the world, especially those who are embedded in European/Humboldtian systems, are turning back the clock by beginning experiments in (re-)introducing liberal arts and sciences education. In central and eastern Europe and the former Soviet Union, where this author was based for several years and has workedfor more than two decades, liberal arts and sciences (LAS)education first drew interest because academics saw it as an antidote to the Marxist-Leninist ideology that permeated the teaching process in Soviet times. It was often linked to the notion of enhancing citizens' agency in the wake of the collapse of authoritarian regimes. Many also saw LAS education as a means of introducing interdisciplinary curricular approaches and thus as a remedy to the disciplinary rigidity that dominated higher education in the region. Some were enthusiastic about bringing the arts, which had been consigned to conservatories and specialty schools, into university curricula. Still others were attracted to new student-centered pedagogical approaches. More recently, liberal arts and sciences education is linked with modernization: the flexibility and adaptability associated with LAS are seen as necessary for innovation and long-term employment. The visual of Steve Jobs (who briefly attended Reed College) introducing the iPad as emerging from the intersection of two streets, "liberal arts" and "technology," represents the essence of the modern economy [Isaacson, 2011].With the passage of time, interest in LAS education in the post-Communist world has come to reflect similar sentiments of educators in other parts of the world with different histories and traditions: whether in Europe, Asia, Latin America or Africa, university faculty and administrators are increasingly looking to introduce and adapt liberal arts models of higher education to their own environments [Gillespie, 2001/2002; Peterson, 2012].

Adapting the LAS to new educational environments has not always proved a simple task. Two primary challenges emerge. First, reformers are often more eager than knowledgeable: while they intuitively or rhetorically support liberal arts and sciences education, they are uncertain of what it is and how it can be adapted to their educational environments. This is even more the case for policy makers and employees of educational ministries, who often have had little exposure to LAS education, find it difficult to adapt to educational norms within their countries, and wrestle with competing constituencies. The second, and inter-related, challenge is justifying liberal arts and sciences education in the face of skepticism, whether it be from

ministry officials who prefer rigidly ordered academic structures; education leaders, who are often inherently conservative and hesitant to change; teachers, who perceive student-centered teaching approaches as a threat to their unquestioned authority; and/or parents of prospective students, who are uncertain what LAS represents.

My goal in this essay is two-fold: first I hope to provide a definition of a modern LAS education that will assist those involved in developing LAS institutions and move beyond the paraphrase from Justice Potter Stewart's famous dictum on obscenity—you "know it" when you "see it." In this context, I will borrow from my essay, "What a Liberal Arts Education is… and is Not," whose 2014 version outlines in a very practical way how LAS education works in higher educational institutions, particularly in the classroom. The essay is based on twenty-five years of working with higher education institutions in the United States, China, Germany, Hungary, Kyrgyzstan, Palestine, Russia, and Ukraine [Becker, 2014]. Second, I hope to make the case for liberal arts and sciences education and why it responds to the demands of the XXIst Century. By articulating clearly how LAS systems work and why they can be beneficial, we can educate potential reformers more clearly of the nature of the project upon which they may wish to embark as well as the pitfalls they might face. Liberal Arts and Sciences is not an easy system to understand and can be challenging to adapt. People should know where they are sailing before leaving port.

It is important to note that the process is not a one-way street: there is a significant degree of reciprocity of learning when one goes through the process of examining different traditions and adapting a familiar system in a new environment. By deconstructing the LAS and building it from the ground up, by engaging with others who adapt and reimagine old approaches, by being forced to justify what one has been doing intuitively, those with great experience in LAS systems are forced to refine their thinking about our own educational structures and processes and learn of shortcomings as well as potential opportunities for change.

The essay relies much on the work of Philippe C. Schmitter and Terry Lynn Karl whose essay, "What Democracy is… and is Not," explores an even more timeworn and elusive concept [Schmitter, Karl, 1991]. In adapting Schmitter and Karl's approach, I will attempt to define the essential characteristics and concepts that distinguish LAS as a unique system of education; the procedures, rules and arrangements that create an enabling environment necessary for a LAS system to succeed; and common misinterpretations and erroneous conclusions about LAS education.

Definition

In order to clarify what we mean by LAS education, we should start with a definition. The following definition focuses on the goals of liberal learning, an issue about which there is general consensus, as well

as the means for obtaining these goals, something that is less frequently discussed at length.

Modern liberal arts and sciences education is a system of higher education designed to foster in students the desire and capacity to learn, think critically and openly, and communicate proficiently, and to prepare them to function as engaged citizens. It is distinguished by a flexible curriculum that demands breadth as well as depth of study, encourages inter-disciplinarity, and enables student choice. It is realized through a student-centered pedagogy that is interactive and requires students to engage directly with texts within and outside of the classroom.

There are a number of points that should be made about this definition. **First**, it is important to emphasize that we are looking at a "system" of education, by which I mean "an ensemble of patterns' that determine the educational process, including the curriculum and pedagogy [Schmitter, Karl, 1991]. In order to work properly, the ensemble must be "institutionalized," which is to say "habitually known, practiced and accepted by most, if not all" of the relevant actors, including faculty, students, administrators, governing bodies, and accreditors [Schmitter, Karl, 1991]. In other words, the vast majority of participants in a system of LAS education necessarily must be knowledgeable of, and willing to conform to, the expectations and requirements of that system. This notion of a system differs from the use of "liberal arts' exclusively as a collection of subjects to be studied, be it the classical *trivium* (grammar, logic and rhetoric) and *quadrivium* (arithmetic, geometry, music, and astronomy), or the more contemporary association with arts and humanities. It may be true that a modern LAS education can include all of these subjects (arts, humanities, social sciences and natural sciences, as opposed to pre-professional education), but as a system it not only includes subjects, but curricular structures, specified processes that allow for things like student choice, interdisciplinary study and teaching approaches that democratize learning.

Second, I explicitly use the term "LAS" education as opposed to "liberal" education. While the two notions share similar goals and are often used interchangeably, in my view "LAS" education *as a system* is a more comprehensive package. For example, a teacher can reflect liberal educational pedagogy by using interactive teaching methods, but she might be isolated within her institution and constrained by a narrowly defined highly specialized and inflexible curriculum. Similarly, a curriculum can allow for some student choice of area of specialty, but that area might be limited to humanities or social sciences. I view the approaches and practices associated with term "liberal education" (interactive teaching, close reading of texts, flexible curriculum that emphasizes breadth as well as depth) as the building blocks

of the LAS system. While these building blocks might be beneficial in and of themselves, isolated from other components they may be insufficient to constitute a system of LAS education.[1]

Third, in this paper I use the term "liberal arts *and sciences*' intentionally: while in recent times "liberal arts' curricula are most often associated with literature and the humanities, natural sciences and mathematics historically have formed part of the LAS curriculum and are critically linked to some of the most important challenges facing citizens today, be they related to disease, nutrition, or the environment. If students are to participate in important decisions confronting contemporary society then they must be numerate to understand quantitative social sciences and modern scientific concepts. As Shirley Tilghman, former president of Princeton, pointed out, liberal arts colleges and universities have two distinct and critical missions in the sphere of the natural sciences: to educate scientifically literate citizens and to create a new generation of scientists [van der Wende, 2012; Tilghman, 2010]. Assumptions about the sciences also belie a prejudice that assumes that the sciences employ pedagogies utterly distinct from those employed elsewhere in the university and which are devoid of student-centered approaches. As will be addressed below, this is not the case: innovative, student-centered science teaching engages students early in their academic careers and promotes strong learning outcomes.

Fourth, I use the phrase "higher education institutions' to avoid confusion associated with the terms "college" and "university." While in the United States the terms are used interchangeably, that is not the case in Europe and many other parts of the world, where the term college is associated with secondary education or technical training. It is true that residential liberal arts colleges, like Amherst College, Swarthmore College, and William College, are considered amongst the best institutions for student-centered undergraduate learning, in spite of the fact that they do not appear in most of the world rankings that many educators and government officials in the BRICS countries and elsewhere often obsess over [Lang, 1999]. However, many observers do not recognize that at several of the most pres-

[1] The American Association of Colleges and Universities defines liberal education as "an approach to college learning that empowers individuals and prepares them to deal with complexity, diversity, and change. This approach emphasizes broad knowledge of the wider world (e.g., science, culture, and society) as well as in-depth achievement in a specific field of interest. It helps students develop a sense of social responsibility; strong intellectual and practical skills that span all major fields of study, such as communication, analytical, and problem-solving skills; and the demonstrated ability to apply knowledge and skills in real-world settings." See https://www.aacu.org/leap/what-is-a-liberal-education.

tigious research universities in the US undergraduates study in what are termed undergraduate colleges and that these research universities are wedded to liberal arts education. Yale sees its undergraduate school, Yale College, as "the heart of the University" in which "more than 2,000 undergraduate courses in the liberal arts and sciences are offered each year, forming a curriculum of remarkable breadth and depth." Columbia University describes its rigorous core as "one of the nation's oldest and most renowned liberal arts programs and the hallmark of the Columbia academic experience." According to Stanford University, "A Stanford undergraduate education emphasizes a broad liberal foundation, development of deep subject-area knowledge, a variety of rich learning experiences inside and outside the classroom, and the cultivation of skills to help students become lifelong learners."[2] The reality is that LAS education comes in many different structures, be it the residential liberal arts college, the undergraduate part of a research university, the "university college" that is common in the Netherlands, or the Honors College in major US state universities, where faculty can work exclusively in the LAS program or can lead dual lives, as it were, working in the LAS unit while maintaining a foothold in the more traditional faculties or departments. Such diverse approaches are particularly useful to bear in mind in countries undergoing educational reform because it allows reformers to graft modern LAS structures onto established institutions.

Finally, LAS institutions are not associated exclusively with politically "liberal" outlooks. Indeed, if they wish to develop critical thinkers and active citizens, they should ensure that students are exposed to a number of perspectives, including those associated with more politically conservative approaches to issues. LAS institutions have ample room for faculty and students, as well as assigned readings, that represent the political spectrum.

Let us now return to the substance of LAS education in more detail.

Goals

The first part of our definition speaks of goals. *The central tenet of LAS education is that it is more concerned with the development of the individual than the preparation of the student for a specific vocation*. Harking back to its Greek origins, it is concerned with shaping citizens who are capable of being active participants in democratic society. In modern times, it goes beyond this to prepare students to function in dynamic social and economic environments. The LAS

[2] For further descriptions, see Yale University, "Academic Programs," http://www.yale.org/academics/index.html; Columbia University, "Core Curriculum," https://undergrad.admissions.columbia.edu/learn/academiclife/college/core;.and Stanford University, "Academics," https://www.stanford.edu/academics/.

wager is that love of learning, capacity for critical thinking, and ability to communicate effectively are, in the course of their lives, more valuable to students than depth of knowledge in one subject. These qualities are particularly important in allowing graduates to adapt to changing social and economic conditions and to help them to continue to grow, learn, and adapt to changing conditions long after they have left the halls of academe.

Curriculum

The second part of the definition, which focuses on curriculum and pedagogy, is equally important and more critical to the international context in which LAS education now finds itself. It is one thing to speak of lofty goals; it is another to clarify the real-life circumstances that allow institutions to pursue such goals.

In terms of curriculum, the first important characteristic of a LAS system is *student choice*. Student choice comes in two important forms: the curriculum is sufficiently flexible that students have substantial leeway to *choose courses* that they will take, and it offers students the possibility to *choose an area of academic concentration* (often called a "major") after they have entered a higher educational institution. The very fact that students play a significant role in shaping their program of study is critical to the democratization of the educational process. Symbolically, it confirms that there is not a single path or a master plan to higher learning. Perhaps more importantly, the engagement of young adults in making critical educational choices prepares them for important decisions they will make later in life. Moreover, allowing students the flexibility to choose their area(s) of academic concentration after they have entered college or the university reflects LAS" belief in the capacity of people for growth and change and highlights its emphasis on continuous learning and its stress on the importance of critical thinking, as opposed to the accumulation of knowledge. As such, the LAS approach strongly contrasts with classical continental European systems (West and East), adapted throughout the world, where students enter faculties or departments that are autonomous and operate effectively as mini-universities: students enter the faculty of law, history, or engineering and never leave that faculty for their three, four or five years of study. The classical European system not only presupposes that students are certain of their main educational focus upon entrance to the institution of higher education, but it narrows their breadth of study once they have entered.

The emphasis on student choice in LAS education does not mean that anything is permitted (a source of great disappointment for many undergraduates who take the term "liberal" in liberal arts and sciences too literally). The educational process in a LAS system is governed by what can be called "*bounded uncertainty*" [Schmitter, Karl, 1991].

Students have choices, but choices that are constrained through requirements that safeguard academic rigor.

As our definition indicates, modern LAS education is supported by a curriculum designed to promote breadth as well as depth. Breadth of study is often ensured through requirements that students take a certain number of mandatory courses (often referred to as the "general education requirements' or the "core curriculum") that are designed to ensure that all students are exposed to classics and/or important modes of inquiry and approaches to knowledge.[3] Breadth can also be realized through so-called "distribution requirements," which oblige students to take courses in different groupings of disciplines, but without necessarily specifying which specific courses are required.[4]

These requirements are the subject of continual debate at most institutions and are revised periodically. Three important points should be raised here. First, to meet the LAS standard there must be some structure that requires students to have curricular breadth. If breadth of study is optional, then the system's goals are critically undermined. Second, in the modern version of LAS education, curricular requirements should go beyond arts and humanities and extend to mathematics and the natural sciences. As stated above, this is essential in order for students to be engaged with some of the most important challenges facing today's citizens. Finally, the number of requirements cannot be so great as to preclude student choice, the importance of which was discussed above.

As far as depth is concerned, modern curricula regularly require students to follow or design (together with faculty) a program of concentration or a major, the requirements of which must be clearly articulated and transparent. Academic programs may require students to take a certain number of courses in a given subject area, may specify certain mandatory courses, and may require or recommend a specific sequence of courses. They also may require or recommend courses in related areas. The overall goal is to ensure that graduates have a minimum proficiency in at least one coherent intellectual sphere (sometimes students focus on more than one area). It should also be stressed that concentrations or majors are not limited to traditional academic disciplines. LAS institutions have been particularly strong at developing interdisciplinary programs that have supplemented and

---

[3] See for example University of Chicago, http://collegecatalog.uchicago.edu/thecollege/thecurriculum/ or Columbia University, http://www.college.columbia.edu/core/core.

[4] For example, Bard College currently requires students to take classes in nine areas: Analysis of Arts; Foreign Language, Literature, and Culture; History; Humanities; Laboratory Science; Literature in English; Mathematics and Computing; Practicing Arts; and Social Science. All courses are classified according to the requirements that they fulfill.

in some cases supplanted age-old approaches while maintaining intellectual integrity. Environmental studies, cognitive studies, public health, and human rights are all examples of subjects that address some of the most poignant challenges facing humanity and that require inter-disciplinary approaches.

One note of caution is important to mention here: there is always going to be a tension between breadth and depth of curriculum. One tendency, particularly in institutions that operate in a milieu in which the continental European model dominates, is to over-plan concentrations/majors, which is to say to make majors so demanding that they emulate pre-existing structures in terms of requirements. This risks imperiling the breadth element of LAS education. Ideally, student choice should not be limited to the breadth requirements outlined above: it should be recognized that courses in other disciplines can not only contribute to the formation of a well-rounded individual, but can enhance the understanding of the student's major.

Finally, it is worth pointing out that given the complexity of the curriculum, students need to be advised effectively. Because the system celebrates student choice but maintains a number of requirements, it is essential that students be guided through the educational process. Advising maybe done by faculty members or by administrators, but should be structured in such a way as to give students the guidance necessary to navigate curricular choices while fulfilling their academic obligations.

Teaching

The other critical component of our definition of modern LAS education is pedagogy. As Vartan Gregorian has argued, "At the heart of liberal education is the act of teaching" [Lang, 1999]. Teachers sharpen their students' analytic skills by exposing them to different points of view, familiarizing them with a variety of theoretical approaches to probe issues, and requiring them to read texts with a critical eye. However, it is not simply the substance of teaching that is different but the entire approach to the educational process. An interactive, student-centered pedagogy means that the classroom is not a one-way conveyor belt of knowledge from professor to student. Specifically, instruction does not simply consist of a teacher reading lectures to students, as is common throughout much of the world. The classroom is an environment in which students are encouraged to question assumptions and conclusions, analyze texts and derive their own interpretations, debate and role play,[5] and to learn from one another. In order to be prepared to participate in this democratized classroom,

[5] Debate and role-playing, like Model United Nations, are particularly effective learning tools within the classroom. The impact of simulations and debate goes well beyond foreign policy: studies have demonstrated that they can be impactful tools across the curriculum, including social studies, natural sciences and literature [Newman, Twigg 2000; Joyner, 2003].

a significant amount of learning must take place outside of the classroom. Students are expected to engage in primary and/or secondary texts that analyze issues to be addressed during a class. The specific nature of the educational process can vary according to subject. In the natural sciences, for example, this can mean engaging students in "discovery-based research," placing them in the labs from day one of their study. As Graham Hatfull, a Howard Hughes Medical Institute researcher from the University of Pittsburg said, "Students should be *doing* science from day one, not just reading about what others have done."[6]Because of this students are empowered to offer informed insights and even to draw conclusions that differ from those of the teacher. The teacher provides guidance, clarifies issues, expresses her views, and evaluates the performance of students. However, she does not stand alone, unquestioned: in discarding the lecture-only, conveyor-belt format, the professor must be willing to give up some authority. While for some this can prove difficult, many faculty who have recently been introduced to the LAS approach have found it to be liberating and tremendously rewarding. They happily trade in their old notes and their total command of the classroom for the new learning environment, complete with stimulating interchanges and challenging discussion.

Of course, specific pedagogic approaches will vary according to teacher and subject matter. An LAS system leaves room for different teaching styles. Not all teaching in LAS institutions depends on a pure Socratic method, and lecturing can remain part of the diverse repertoire of teachers. The degree of interactivity can vary according to the subject matter: a course in physics will offer different challenges and take a different structure from a course in history. However, regardless of the teacher and the subject matter, there are certain characteristics that must predominate in an LAS system: learning is interactive, students are encouraged to raise questions, challenge assumptions, and make their own discoveries, the teacher does not have a monopoly on knowledge, and a significant amount of learning takes place outside of the classroom.

Procedures, Rules and Arrangements of a Liberal Arts and Sciences Education

Now that we have examined some of the essential characteristics and concepts that distinguish the LAS as a system of higher education, we must turn our attention to the factors that enable such a system

[6] Studies have shown that, "Introducing discovery-based research—challenging, messy, real—into early educational experiences can dramatically improve their outcomes, according to several studies. Students who participate in research earn higher grades, show more interest in STEM majors, take less time to earn degrees, and show more interest in post-graduate education." http://www.hhmi.org/advance-science/building-authentic-research-experiences.

to exist. Here we will look at structural issues that exist at the nexus of administration, curriculum and pedagogy and then some more specific issues pertaining to teaching methodology. The former are particularly important because they are too often afterthoughts: educators are so often focused on the goals of the LAS that they give short shrift to critical mechanisms that make a LAS system work.

Structural Issues

The first important structural issue that has an important impact on a LAS system is the framework that determines the amount of time students regularly spend in the classroom and the number of courses they can take at any one time. Because LAS education consists of a student-centered pedagogy with a democratized classroom, it requires that *students prepare for class by reading texts on their own*. It also requires that *students produce written work*: written work enhances communication skills, helps students clarify their understanding of texts, develop ideas and arguments, and analyze and deploy evidence. As a consequence, students are expected to attend and participate in class and must have time to prepare outside work. A logical corollary of this is that students cannot be in class every day for six or seven hours and that they cannot take ten, twelve or even fourteen courses at one time, as was common in many countries of the former Soviet Union. Such structures, which are often created in response to state requirements, leave little time for independent reading and writing by students, thus creating a dependency on the teacher as a purveyor of knowledge. In reality, if the pedagogy at an institution were consistent with the LAS approach it would be difficult, in my mind, for most students to take more than four or five standard courses at one time. (There might be variation for courses with fewer than the standard number of credits). This does not, however, mean that attending class is unimportant. On the contrary: since so much emphasis is placed on learning in the classroom, students must be expected to attend class regularly and to contribute to the learning process by raising questions and participating in discussions. This is not the case in the classical European systems where attendance at lectures is often optional. Indeed, attendance is so important that many LAS institutions have specific policies that lower grades of students who do not attend class regularly.

A second important structural issue, which moves closer to the issue of teaching, relates to the classroom. In short, *classes must be small* enough or structured in such a way to make interactive teaching possible. There may be regular small classes (Bard College, where I work, limits most classes to 22 or fewer students) or large classes with a limited degree of interactivity that are regularly divide into smaller discussion sections to discuss in more detail the substance of the lecture and assigned readings. There is no magic number, and much depends on subject and teacher. However, it is clear that an education that takes place exclusively in large lecture halls filled with

students is incompatible with LAS teaching methodologies. In most cases, the majority of classes at an LAS institution would allow for substantive discussion, either in class or discussion sections, and several would have the intimate environment of an academic seminar.[7]

The final structural area of importance is the administrative framework: there must be *an academic calendar, credit system, and class schedule that facilitate rather than impede the pillars of breadth and depth* in an LAS educational system. This might sound banal, but one would be surprised at how frequently inattention to such structures can skew the educational process. The most extreme case of this that I have witnessed happened at the Central European University (CEU) in Budapest, a new and very progressive institution where I worked in the mid 1990s: due to the speed with which CEU was established, it fell into the trap of replicating continental European traditions of departmental autonomy, with departments acting effectively as separate institutions. Departments created their own academic programs from the bottom up, the result being that one relatively small university (with 500 students) had eight departments with six academic calendars, five credit systems and three definitions of a class hour. These structures created the equivalent of non-tariff barriers between departments, crippling the capacity of students to take courses in other departments (for example, the second trimester for political science students was ten weeks while it was sixteen weeks for history) and impeding the development of interdisciplinary programs, a critical element of the institution's mission. In other milder cases, even at my current institution, conflicting class scheduling between, for example, the sciences and studio arts, has created insuperable conflicts between disciplines even when there is consistency in calendar and credit system.

Teaching Methods

We begin our examination of the procedures, rules and arrangements associated with teaching by focusing on the preparation that must take place prior to the meeting between teachers and students in the classroom. As suggested above, it is essential that students be *assigned readings* prior to classes at which the subject of the readings is discussed. Interactive teaching and the democratization of the classroom are fundamentally constrained if students have not read preparatory materials. If no such materials are provided, substantive discussion is extremely difficult and students are reduced largely to asking questions about facts. They are not in a position to challenge

[7] It is also beneficial, although not essential, that the physical set-up of the classroom is such that chairs are arranged in a circular or rectangular pattern, rather than facing forward towards the teacher. This breaks down barriers, encourages participation, and reinforces the democratic nature of learning.

their teacher's interpretation or to learn effectively from one another. It should be noted that the nature of assignments could change according to discipline—in the natural sciences students might be assigned a lab or in the arts they may have a photographic assignment or be asked to analyze paintings—but the principle remains the same: students prepare for class because they are participants, not passive recipients of information.

In this context it is essential that *students be provided with a syllabus structured in such a way as to outline specific readings and/or tasks for specific class sessions*.[8] A long list of recommended readings for a course, as is common in many countries, does not suffice for two critical reasons. First, there is no assurance that students will know what readings are appropriate for any given class, let alone that they will have read them. Second, the interactive process is paralyzed if there are no common reference points among the students. Active engagement in the class is necessary. Without the knowledge of what is being discussed and the empowerment that comes from reading primary and secondary texts to be addressed in class, that is not possible, and the class will devolve into a monologue.[9]

A logical corollary to this is that *assigned readings must be readily available to students*. Whether assigned readings can be purchased, accessed through a library or over the internet, or given to students, environmental circumstances must exist so that all students can reasonably have the opportunity to read the assigned materials. This might sound intuitive, but I have seen a case in which an entire class was assigned to read a book, one copy of which was available in the entire city. In other circumstances assigned readings have not been available at all. A fancy syllabus that is not supported by available materials is close to worthless. This speaks to a potentially uncomfortable reality: in order for an LAS system to succeed, extensive investment in libraries and/or modern communications technology must occur.

Another key area of teaching and pedagogy is found in the *evaluation of student work*. While there are many theories about effec-

---

[8] This syllabus may include many other things, such as a clear articulation of the goals of the course, primary issues addressed in the course, anticipated learning outcomes, a summary of the main questions to be examined during the course, study tips, and recommended readings. As is discussed below, it should also contain a clear articulation of expectations of students, including all elements that contribute to a student's final grade.

[9] Informing students of assigned readings as the course unfolds, as opposed to providing them in a syllabus, can theoretically allow students to be prepared for interactive discussion. However, real-world experience leads me to believe that it is a vastly inferior and, in fact, unworkable alternative. In reality, it almost always results in difficulties because materials prove not to be available on short notice, students who are absent do not learn of the assignments, and students are deprived of the opportunity to plan ahead.

tive evaluation methods, there are certain issues that are critical to the system of LAS education, particularly in terms of promoting the transparency and accountability necessary for democratic learning. First, there must be transparency about what types of work contribute to the teacher's evaluation of students. The course syllabus should outline the assignments and tasks that are expected of students and how their performance on those assignments contributes to their final evaluation. Second, contemporary LAS education places an emphasis on continuous assessment, which is to say that the final mark is based on an accumulation of results from a number of assignments, including, but not limited to: mid-way exams, final exams, essays, research papers, art projects, oral reports, multi-media presentations, group projects, laboratory research, and class participation.

There are a number of important points that follow from this. The modern LAS education rejects the near or total dependence on the final examination for a student's grade. In particular, it rejects a mark largely or totally dependent on a one-on-one oral exam, a method regularly used in Europe and the former Soviet space. Why is this the case? It is assumed that the goal of the evaluation project is not simply to assess students but to help them to learn and improve: a highly weighted final examination simply does not offer the opportunity for useful feedback. Oral finals are particularly problematic because they are neither transparent nor verifiable. They reinforce the omnipotence of the faculty member and, experience has shown, they leave great latitude for results based inappropriately on extra-curricular issues, including some that are clearly not in keeping with the democratic principles underlying LAS education or liberal education more generally. Does this mean that a modern LAS educational system rejects final exams? The answer is no. A final or an exam at the end of the course can form part of a final mark. Some subjects are more conducive to finals than others. The point is that a final exam should not, as a matter of habit, dominate the evaluation process within an LAS system and that efforts should be made to reduce the circumstances in which the final constitutes all or the predominant part of the grade.

The discussion of evaluation and continuous assessment raises two additional issues. The first one focuses on the type of assignments students are given: it is extremely important in modern LAS education to require students to write essays and research papers. If a primary goal of LAS education is to foster in students the capacity to communicate proficiently, then students must be required to develop their written skills. Oral skills are no doubt important, and one product of my experience in Russia is a belief that American institutions need to place a greater emphasis here. However, there is no substitute for written communication for developing the capacity to analyze and argue, and through the writing process to develop and refine ideas. Especially in the Internet age, cultivating in students the capacity to conduct effective research is also vitally important. Skills

necessary to be engaged citizens have changed: instead of learning how to find information they must now learn how to sift critically through the huge volume of information available in print and online.

One final element in terms of evaluation of student work that is important to examine is the nature of faculty feedback to students. An LAS education places a *premium on substantive and timely feedback*. Teacher feedback is one of the primary ways through which learning occurs, particularly in the development of research and writing skills. I have witnessed circumstances in which teachers have made the shift to continuous assessment and assigned research papers but failed to provide students with substantive comments on their work. In some cases students received minimal comments and in other cases they received only grades. This reflects one of the great challenges of LAS education: it is time-intensive for the faculty and thus can be costly.

Why Liberal Arts and Sciences Education

Why is liberal arts and sciences education worth considering? Why are so many educators in so many countries around the world exploring adaptations of liberal arts and sciences education?

As stated above, LAS education is distinguished by its emphasis on the development of the individual rather than simply the acquisition of specialized knowledge. This process begins from the moment of admission: one of the most important but underappreciated elements of LAS education is the rejection of the Humboldtian notion that seventeen and eighteen year olds should be expected to choose their area of specialization (or major) prior to being exposed to learning within the context of the university classroom. Trust is put in the student to explore different possibilities and to make an informed choice of specialization based on real-life experience, rather than depending on impressions from secondary school or guidance from (often ill-informed) parents. Paradoxically, the idea of making an informed choice of specialization resonates not only with students, but also with many parents of aspiring LAS students in places like Russia, Kyrgyzstan, and Palestine, where the more self-reflective realize that the academic choices they made as high school students may not have served them well throughout their academic and professional careers.

The process of individual development extends throughout the educational process and serves students well as they progress throughout life. As Albert Einstein said, “The value of an education in a liberal arts college is not the learning of many facts but the training of the mind to think something that cannot be learned from textbooks’ [Becker, 2014]. Fareed Zakaria, one of the leading foreign policy analysts in the US, who was raised in India but who received his B.A. from Yale and his Ph.D. from Harvard, offers a strong defense of LAS education in his book, *In Defense of a Liberal Education*. Zakaria underlines three broad benefits of liberal arts and sciences education

in terms of personal development. First, it not only "teaches you how to think," but it "teaches you how to write, and writing makes you think." In other words, "thinking and writing are inextricably intertwined." Second, it "teaches you how to speak," by which he means not speaking for the sake of speaking, but "learning to understand your own mind, to filter out under-developed ideas, and then to express to the outside world your thoughts, arranged in logical order." Finally, it "teaches you how to learn" and to become a lifelong learner who can adapt to different environments [Zakaria, 2015].

While these life-long skills, which form part of the liberal arts wager described above, might appear both overly general and reflect a certain degree of idealism, they also have a very practical side in that they prepare young people to enter the modern economy. The reality is that today's economy is different from the past, with its emphasis on creativity and design, on the one hand, and flexibility and adaptability on the other [Hersh, 1997]. Gone are the days when a worker specializes in a subject, graduates and then is employed for life by a single employer or even in her area of specialization. According to the US Bureau of Labor Statistics, the average American worker today stays at each of his or her jobs for 4.4 years: the expected tenure for the youngest portion of the workforce is one-half of that [Meister, 2012]. Russia demonstrates a similar pattern. According to the Federal State Statistics Service (Rosstat), 60% of Russians work outside of their trained specialties [Smolyakova, 2012]. The figures are even higher for recent university graduates. According to a survey conducted by the recruiting company Superjob.ru, only 25% of graduates work in their area of specialty a year after graduation [Korobeinikova, 2010]. Former Minister of Education and Sciences Andrei Fursenko acknowledged the fact that that people change their occupation over their lifetimes, and he expressed sympathy for the social and psychological benefits associated with changing employment. In this context, he stated, "It's important not only what is written on a resume and diploma, but also what a person knows and what they really can do, how much he is able to improve himself" [Fursenko, 2009].

LAS education prepares graduates for new economic conditions that emphasize flexibility and adaptability instead of single-company or single-industry lifetime employment.[10] By focusing on the development of the person and endowing students with the capacity to think critically, solve problems, and communicate effectively, LAS education fosters in students the capacity to respond to changing cir-

[10] A World Bank report on education in Europe and Central Asia stresses that the shift from centrally planned to market economies "will increasingly require workers with better information-processing, problem-solving, and knowing-how-to-learn skills. Available international test data show that ECA (Europe and Central Asia) countries are significantly behind OECD countries in many such skills' [Berryman, 2000].

cumstances. That is an essential part of the LAS wager. LAS graduates might not start their careers with as much content knowledge as non-LAS students, but they come with training in research, skills in knowledge acquisition, and the ability to problem-solve, characteristics that in the long run are likely to make them greater contributors to their places of employment than their more narrowly trained colleagues. Fursenko echoed some of the core outcomes of LAS education when he asserted that an innovative economy presupposes "the ability to quickly and flexibly react to changing conditions' and that "learning throughout the course of life is becoming not a desirable, but rather a necessary condition" [Fursenko, 2009].Similarly, Igor Remorenko, Russia's Deputy Minister of Education and Science, could have been speaking of LAS education when he stated: "Education needs to formulate in citizens. . . creative talents, the ability to solve problems, skills of participating in complexly organized project-oriented work, [and] the ability to orient oneself in the conditions of quickly changing technology" [Startsev, 2008]. As Harvard University President Drew Faust put it, "At its best, college does more than prepare you for your first job; it helps anticipate, and perhaps even create, your fourth or fifth job, a job that may not even exist" [Faust, 2014].

It is not just academic leaders and ministerial officials who see the benefits of liberal arts and sciences education. Many leaders of industry, including several who graduated with degrees in the liberal arts and sciences and/or went to liberal arts colleges, are vociferous in their support. In the technology sector, Steve Jobs famously said "it is in Apple's DNA that technology alone is not enough. It's technology married with liberal arts, married with the humanities, that yields us the result that makes our hearts sing" [Isaacson, 2011].Edgar Bronfman, former CEO of the Seagram Corporation, who studied history at Williams College, stated, "In my experience, a liberal arts degree is the most important factor in forming individuals… who can determine their own paths through the future…Curiosity and openness to new ways of thinking… ensures future success more than any other quality" [Bronfman, 2013].

Annual surveys of several hundred employers in the United States conducted for the American Association of Colleges and Universities repeatedly demonstrate enthusiasm for both the educational outcomes of liberal arts and sciences education. Amongst the findings:

- 80 percent of employers agree that, regardless of their major, every college student should acquire broad knowledge in the liberal arts and sciences [Hart Research Associates, 2013].
- 74 percent would recommend liberal arts and sciences education to a young person they know as the best way to prepare for success in today's global economy [Ibid.].
- 93 percent of US employers agree that "a candidate's demonstrated capacity to think critically, communicate clearly, and

solve complex problems is *more important* than their undergraduate major." Few think that having field-specific knowledge and skills alone is what is most needed for individuals' career success [Ibid.].

- 85 percent of employers believe that it is more important that graduates have either a range of knowledge and skills that apply to a range of fields or positions (25%) or both field-specific and broad range of knowledge and skills (60%), compared with only 15% who prefer the type of narrow specialization which results in knowledge or skills that apply to a specific field or position [Hart Research Associates, 2014].
- Employers rate as very important various learning outcomes associated with LAS education, including: 85% the "ability to effectively communicate orally"; 82% the "ability to effectively communicate in writing"; 81%"critical thinking and analytical reasoning skills"; and 81%"ethical judgment and decision-making" [Ibid.].

The success of graduates of liberal arts institutions in such disparate places as the Netherlands, Kyrgyzstan, and Palestine suggests that favorable employment outcomes are not simply an American phenomenon.

Beyond employment, graduates of liberal arts and sciences institutions are also extremely competitive in terms of their applications to graduate school. A study by Nobel laureate Thomas R. Cech that focused on the performance of graduates of liberal arts colleges demonstrated that, "Liberal arts colleges as a group produce about twice as many eventual science Ph.Ds per graduate as do baccalaureate institutions in general, and the top colleges vie with the nation's very best research universities in their efficiency of production of eventual science Ph.Ds' [Cech, 1999].[11] Indeed, at the time of Cech's study, liberal arts colleges constituted three of the top six and eleven of the top 25 institutions in the US in terms of producing undergraduates who completed doctorates in science and engineering. Cech explained this success as follows, "A liberal arts education encourages scientists to improve their "competitive edge" by cross-training in the humanities or arts. Such academic cross-training develops a student's ability to collect and organize facts and opinions, to analyze them and weigh their value, and to articulate an argument, and it may develop these skills more effectively than writing yet another lab report" [Cech, 1999].

A final, but not unimportant, point worth making is that liberal arts and sciences education often resonates with faculty, who are some

[11] Cech continued, "On a more subjective note, when highly successful scientists compare their liberal arts college education to what they likely would have received at a large research university, most rate their college experience s a substantial advantage to their career" [Cech, 1999].

of its fiercest advocates. While the LAS pedagogy can be time consuming and very difficult for faculty accustomed to reading lectures and holding forth, unchallenged, in the classroom, for many the experience of opening up the classroom and engaging with students can also be liberating. Recently, a colleague from Palestine who obtained her doctorate in continental Europe described to me how she does more reading now preparing for classes at the Al-Quds Bard College of Arts and Sciences than she did while preparing her dissertation; but that she finds it, and the interaction with students, incredibly rewarding both intellectually and professionally, and well worth the effort. Faculty advocates also realize that there are misperceptions about the link between LAS education and research: not only is research possible in spite of heavy teaching demands, but quality LAS institutions recognize that faculty who conduct research tend to be better teachers because they are more knowledgeable about, and engaged with, their subjects and more aware of new theoretical developments within their fields. As Michael Roth, President of Wesleyan University, one of America's oldest and most prestigious residential liberal arts colleges, says, "At liberal arts schools like Wesleyan… the scholar-teacher model means that our faculty believe in a virtuous circle connecting their scholarship to their undergraduate teaching. Stimulation in the classroom, they find, advances their research in ways that, in turn, invigorate their teaching and stimulate curriculum development" [Roth, 2010].

Concluding Reflections

LAS is not a static system of education. One of the reasons it has thrived for so long is its capacity to modify its procedures, rules and arrangements in response to changing circumstances. As technological changes continue, teaching approaches will evolve. Moreover, as the LAS system goes global, it will incorporate national traditions and adjust to new environments. There are many elements that will remain essential to a LAS education, but as a system it is not stuck in time.

The LAS system is not a magic bullet that will solve all of society's problems. However, when properly constituted, it offers a coherent approach that endows students with abilities that will prepare them for a lifetime of civic engagement, learning, and employment. In countries where vocational training, hyper-specialization and didactic pedagogic approaches dominate higher education, it can offer an alternative that will resonate among students and faculty. It is not an easy system to adopt, but the rewards may well be worth the investment.

References

Barker C. M. (2002) *Liberal Arts Education for a Global Society*. New York: Carnegie Corporation of New York. Available at: https://www.carnegie.org/media/filer_public/cc/0a/cc0a99a0-d3e5–4059-b5a0-c7ad9eed6222/ccny_challenge_2000_liberal.pdf(accessed 1 November 2015).

Becker J. (2014) Chto takoe obrazovanie po modeli svobodnykh iskusstv I nauk... I chem ono ne yavlyaetsya [What a Liberal Arts and Sciences Education is... and is Not]. *Svobodnye iskusstva I nauki na sovremennom etape: opyt SShA I Yevropy v kontekste rossiyskogo obrazovaniya* [Liberal Arts and Sciences in the Modern Era: US and European Experience in the Context of Russian Education] (eds J. Becker, F. Fedchin), St. Petersburg: St. Petersburg State University, pp. 12–40.

Berryman S. E. (2000) *Hidden Challenges to Education Systems in Transition Economies.* Washington: The World Bank, Europe and Central Asia Region.

Bronfman E. M. (2013) Business and the Liberal Arts. *Inside Higher Education*, October 17, 2013. Available at: https://www.insidehighered.com/views/2013/10/17/liberal-arts-are-best-preparation-even-business-career-essay (accessed 1 November 2015).

Cech T. R. (1999) Science at Liberal Arts Colleges: A Better Education? *Daedalus*, vol. 128, no 1, pp. 195–216.

Conner W. R. (1998) *Liberal Arts Education in the Twenty-First Century.* AALE Occasional Paper. No 2. Available at: www.aale.org/conner.htm (accessed 1 November 2015).

Faust D. (2014) *The Case for College*. October 24, 2014. Available at: http://www.harvard.edu/president/speech/2014/case-for-college (accessed 1 November 2015).

Fursenko A. (2009) *Intervyu zhurnalu "Sankt-Peterburgskiy universitet"* [Interview to Sankt-Peterburgskiy universitet journal]. October 19, 2009. Available at: http://spbu.ru/aboutus/161-interview/god2009/523-fyrsenko.html (accessed 1 November 2015).

Gillespie S. (2001/2002) Opening Minds: The International Liberal Education Movement. *World Policy Journal*, winter 2001/2002, pp. 79–89.

Hart Research Associates (2013) *It Takes More Than a Major: Employer Priorities for College Learning and Student Success: What Employers Want from College Graduates*. Available at: http://www.aacu.org/liberaleducation/le-sp13/hartresearchassociates.cfm (accessed 1 November 2015).

Hart Research Associates (2014) *Falling Short? College Learning and Career Success. Selected Findings from Online Surveys of Employers and College Students Conducted on Behalf of the Association of American Colleges and Universities*. Available at:
https://www.aacu.org/leap/public-opinion-research/2015-survey-results (accessed 1 November 2015).

Hersh R. H. (1997) The Liberal Arts College: The Most Practical and Professional Education for the Twenty-First Century. *Liberal Education*, vol. 83, no 3, pp. 26–33.

Isaacson W. (2011) *Steve Jobs.* New York: Simon and Shuster.

Jaschik S. (2014) Obama vs. Art History. *Inside Higher Education*, January 31, 2014. Available at: https://www.insidehighered.com/news/2014/01/31/obama-becomes-latest-politician-criticize-liberal-arts-discipline (accessed 1 November 2015).

Joyner C. C. (2003) Foreign Policy: Classroom Debates As Pedagogical Devices. *ILSA Journal of International& Comparative Law*, vol. 9, no. 2, pp. 331.

Katz S. (1996) Restructuring for the Twenty-First Century. *Rethinking Liberal Education* (eds N. H. Farnham, A. Yarmolinsky), New York: Oxford University, pp. 77–90.

Kiley K. (2013) *Another Liberal Arts Critic*. Available at: https://www.insidehighered.com/news/2013/01/30/north-carolina-governor-joins-chorus-republicans-critical-liberal-arts (accessed 1 November 2015).

Korobeynikova O. (2010) *V Rossii vsyo menshe vypusknikov rabotayut po profilyu* [Less and Less Graduates in Russia Get Employed in Their Related Fields], Moscow: The BBC Russian Service. February 16, 2010.

Lang E. M. (1999) Distinctively American: The Liberal Arts College. *Daedalus*, vol. 128, no 1, pp. 133–150.

Marcus J. (2013) Who Needs Philosophy? *Time*, March 7, 2013. Available at: http://nation.time.com/2013/03/07/who-needs-philosophy-colleges-defend-the-humanities-despite-high-costs-dim-job-prospects/ (accessed 1 November 2015).

Meister J. (2012) *Job Hopping is the "New Normal" for Millenials*. August 14, 2012. Available at: http://www.forbes.com/sites/jeannemeister/2012/08/14/job-hopping-is-the-new-normal-for-millennials-three-ways-to-prevent-a-human-resource-nightmare/ (accessed 1 November 2015).

Newmann W. W., Twigg J. L. (2000) Active Engagement of the Intro IR Student: A Simulation Approach. *PS: Political Science and Politics*, vol. 33, no 5, pp. 835–842.

Peterson P. M. (2012) A Global Framework: Liberal Education in the Undergraduate Curriculum. *Confronting Challenges to the Liberal Arts Curriculum* (ed. P. M. Peterson), New York: Routledge, pp. 1–23.

Roth M. (2010) *The Proper Role of Interdisciplinary Studies*. April 23, 2010. Available at: http://www.huffingtonpost.com/michael-roth/the-proper-role-of-interd_b_471063.html (accessed 1 November 2015).

Schmitter P. C., Karl T. L. (1991) What Democracy is... and is Not. *Journal of Democracy*, vol. 2, no 3, pp. 75–88.

Schneider C. G., Shornberg R. (2001) *Contemporary Understandings of Liberal Education*. Washington, D.C.: Association of American Colleges and Universities.

Smolyakova T. (2012) Kapital-shou. Chto pokazal opros Rosstata ob otnoshenii rossiyan k trudu [Game Show: Attitude of Russians to Labor as Revealed by Rosstat Survey]. *Rossiyskaya Gazeta*, no 5857 (184). August 13, 2012. Available at: http://www.rg.ru/2012/08/13/laykam.html (accessed 1 November 2015).

Startsev B. (2008) *Igor Remorenko: Model "Rossiyskoe obrazovanie—2020" sozdayotsya v interesakh potrebiteley obrazovatelnykh uslug* [Igor Remorenko: The 2020 Russian Education Model is Being Built for the Benefit of Education Services Consumers]. July 18, 2008. Available at: http://www.opec.ru/docs.aspx?id=224&ob_no=87309 (accessed 1 November 2015).

Tilghman S. M. (2010) *The Future of Science Education in the Liberal Arts College*. Available at: http://www.princeton.edu/president/tilghman/speeches/20100105/ (accessed 1 November 2015).

Van der Wende M. (2012) *Trends towards Global Excellence in Undergraduate Education: Taking the Liberal Arts Experience into the 21st Century*. Research and Occasional Papers Series: CSHE.18.12. Available at: http://www.cshe.berkeley.edu/sites/default/files/shared/publications/docs/ROPS.Wende.ExcellencEUGEducation.12.3.2012.pdf (accessed 1 November 2015).

Zakaria F. (2015) *In Defense of a Liberal Education*. New York: WW Norton.