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LIBERAL ARTS AND SCIENCE UNIVERSITY AND THE GLOBAL CHALLENGES OF THE 21ST CENTURY

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Abstract. Introduction. Over the last 30 years, the educational model based on liberal arts and sciences has spread beyond its traditional United States to other parts of the world. However, recently, many liberal arts and science universities face a challenge: due to the pressures of the fast developing world, young people prefer more STEMs (science, technology, engineering and mathematics) oriented universities. The paper addresses the following question: How have private liberal arts universities adjusted to the global challenges of the 21st century? *Methods and Materials.* This paper conducts a case study of one of American leading private small universities – Reed College (Portland, Oregon, USA) by using reports on and studies of liberal arts universities and its graduates; interviews with students, faculty and administration of Reed College as well as academic writings on the subject. Paper examines the Reed College curriculum, faculty and student body, examines evidence from the current Reed faculty, student body and alumni, as well as the information about jobs that Reed alums land. *Analysis.* In the process of analysis, the paper discusses as to whether this adaptation has led to giving up on some of Reed College traditional principles. The role of international partnerships / programs in this process is analyzed. *Results.* The paper demonstrates that Reed College has been adapting to the global challenges of the 21st century by keeping its main focus on individual learning, research collaboration between faculty and students as well as expanding its majors to reflect the demands of the time, staying financially sound by incorporating alumni donations, and engaging internationally.

Key words: university, higher education, model of liberal sciences and arts, global challenges, 21st century.

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УНИВЕРСИТЕТ СВОБОДНЫХ ИСКУССТВ И НАУК И ГЛОБАЛЬНЫЕ ВЫЗОВЫ XXI ВЕКА

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Аннотация. Введение. За прошедшие 30 лет модель свободных искусств и наук распространилась за пределы Соединенных Штатов. Однако в последнее время многие подобные вузы сталкиваются с проблемой, заключающейся в том, что из-за давления быстро развивающегося мира, в частности цифровизации, молодые люди больше предпочитают университеты, ориентированные на STEM (наука, технологии, инженерия). В данной статье проанализирована адаптация современного университета к вызовам XXI века. *Методы и материалы.* Внимание обращено к одному из ведущих американских частных университетов свободных искусств и наук – Рид Колледжу (Портленд, штат Орегон, США). Рассмотрены его учебная программа, преподавательский и студенческий составы, исследованы свидетельства преподавателей Reed, студентов и выпускников, информация о рабочих местах выпускников. Изучены международные партнерства в образовании, а также роль, которую они могут сыграть в подготовке выпускников к переходу в быстро меняющийся мир. *Анализ.* Проведен анализ того, как университеты свободных искусств и наук (в данном случае –

Рид Колледж) приняли глобальные вызовы XXI века и означает ли адаптация отказ от некоторых традиционных принципов данного образования. Рассмотрена роль, которую в этом процессе играют международные партнерства. *Результаты.* Сделано заключение, что Рид Колледж достаточно адаптировался к проблемам XXI века без отказа от своих фундаментальных основополагающих принципов. Об этом говорит появление новых специализаций, стабильное финансовое положение и международные партнерства.

Ключевые слова: университет, высшее образование, модель свободных наук и искусств, глобальные вызовы, XXI век.

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Introduction. This paper adopts the definition of Liberal Arts and Science (LAS) education as a system of education: “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 multidisciplinary 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” [8, p. 268]. It assumes that LAS stimulates development in an individual love for life-time learning, critical thinking, ability to communicate with others; but also views LAS as a structural curriculum combining requirements and student’s choice and student-centered innovative pedagogy.

The 21st century is characterized by a very fast pace and rapidly changing reality, which leads to constant emergence of unexpected challenges. According to the World Economic Forum 2019, the skills that will be in high demand in the 21st century are (in the order of importance): 1. Complex problem solving. 2. Critical thinking. 3. Creativity. 4. People management. 5. Coordinating with others. 6. Emotional intelligence. 7. Judgement and decision making. 8. Service orientation. 9. Negotiation. 10. Cognitive flexibility [42]. The list of demanded skills and the list of skills liberal arts programs should develop overlap significantly [23]. Does this mean that liberal arts universities are the best places to get education in the 21st century? Or the growing popularity of STEMs (science, technology, engineering and mathematics) programs in the ‘motherland’ of liberal arts education, USA, tells a different story?

This paper adopts a method of case study that allows to draw broad conclusions from in-depth examination of a single liberal arts and sciences college for a wider range of similar institutions. There have been a number of interesting studies adopting this methodology [26]. This paper builds upon author’s personal experience of studying and teaching liberal arts in the USA (Reed College) as well as upon materials offered by Reed College, interviews with Reed College students, alumni, faculty and administration. While analyzing the Reed College experience, this paper attempts to respond to the question about the future of liberal arts and sciences education and LAS grads’ place in the world. The paper also examines the role of international partnerships in LAS education, particularly, the nature of ‘deep partnerships’ [16], and the role these partnerships can play in preparing LAS graduates to adopt to the fast-changing world.

Methods and materials. Reed College was founded in 1908 in Portland, Oregon, USA. It is a coeducational, independent liberal arts and sciences university. Contrary to many similar liberal arts colleges in the USA, Reed has always been secular. It is often referred to as one of the most intellectual colleges in the USA. Reed offers the degree of bachelor of arts in 40 majors and programs. Among unique for the USA features of the Reed curriculum there is a year-long course for all freshmen in the humanities and an obligatory senior thesis research project based on student’s original research. Reed’s focus is on bachelor programs, although it also offers a graduate program of the master of arts degree in liberal studies. The student body includes 1,400 students. The average ratio of students to faculty in Reed classrooms is 10 to 1, which creates an opportunity for individual

attention to every student, many discussion based classes and in depth analysis of texts and subjects [1].

Like many prestigious colleges of the same type, Reed cultivates its historic traditions and special atmosphere. It is located in the urban campus in Portland, which distinguishes it from many other LAS colleges typically located outside of the cities. Reed faculty and students often refer to “Reed Bubble” – similar to the “Ivory Tower” that means that life at Reed with its expectations, norms, pace is different from that of the “real world.” According to several scholars, the general trend of people entering US universities is the validity of education measured in successful job landing [21; 27]. Hawkins points out that between 1970 and 1987 the percent of prospective students who see the main goal of college education in getting a well-paid job afterwards, increased from 39% to 76% [21]. The main feature of Reed’s identity is its highly intellectual (even compared with other good liberal arts colleges) nature. This does not exclude the desire to get a good job after getting your education, but the main focus is on knowledge.

Currently, Reed College attempts to both preserve its identity as a highly intellectual place and at the same time to adjust to the realities of the present world with its demands to avoid crisis that some other similar colleges are facing. One of the challenges is financial sustainability. Tuition is an important part of Reed’s income but as with other similar schools, its well-being depends to a large degree on its endowment. Tuition forms 60% of the Reed budget and the Annual Fund and income from endowment cover the remaining 40% [6, p. 8]. There are also donations from the alumni. For example, in 2016–2017 fiscal year, alumni, parents and friends of Reed gave \$4.638 million to the Annual Fund. 4,293 alumni made donations to Reed College, including 2,839 persons – members of the Loyal Own Society (alumni who give money to Reed for three consecutive years or more) [35].

Reed College has a highly qualified faculty, graduates of top universities, holders of very prestigious Ph.D. degrees. Reed Professors have been winning national grants and awards. In 2015, Reed Professors set a 10 year record in winning grants by being awarded of \$2.2 million of grant money from the National Science Foundation, the

United States Department of Agriculture, Research Corporation for Scientific Advancement, the National Institutes of Health, the National Endowment for Humanities and others [7]. Faculty works at 24 departments: Anthropology, Art, Biology, Chemistry, English, French, German, Chinese, Classics, Computer Science, Dance, Economics, History, Philosophy, Physics, Political Science, Linguistics, Mathematics, Music, Psychology, Religion, Russian, Sociology, Spanish, Theater. Departments are assembled into five divisions: The Arts; History and Social Sciences; Literature and Languages; Mathematical and Natural Sciences; Philosophy, Religion, Psychology and Linguistics. Each of these departments offers a major and there are several interdisciplinary studies, including American Studies, Comparative Literature, Classics-Religion, Environmental Studies, International and Comparative Policy Studies, Neuroscience (launched in 2017 to respond to the demands of the 21st century) and others. Reed College also got affiliated with other schools in order to provide dual degrees for those students interested in expanding their major fields, for example, with the California Institute of Technology (Caltech), the Columbia University School of Engineering and Applied Sciences, or Rensselaer Polytechnic Institute, a student may obtain a bachelor’s degree in engineering and a bachelor of arts degree from Reed [13]. In order to graduate a student has to meet general college requirements, divisional requirements and department’s requirements. Students are required to take the junior year qualifying examination and write an in depth independent research project – senior thesis during their last year at Reed. Contrary to most other American universities, Reed College does not have any fraternities or sororities. Neither Reed students are divided by academic ability – there are neither “honors” degrees nor other such programs.

Reed students consistently vote their professors at the top of the ranking for the high quality of teaching and scholarship. In 2020, the nation-wise Princeton Review published an analysis of the research from 140,000 students across USA universities and colleges, Reed was number 2 university in the USA for best professors from students’ perspective, and a featured college in that special report [38; 39]. Notable faculty at

Reed include Peter Steinberger (Robert H. and Blanche Day Ellis Professor of Political Science and Humanities), Mary James (A.A. Knowlton Professor of Physics), Carla Mann (Professor of Dance), Nigel Nicholson (Dean of the Faculty and Walter Mintz Professor of Classics) and many others.

Faculty, students and administration at Reed point out special things about Reed. Professor Audrey Bilger, Reed's new and first female President, spoke at Reed Family and Friends Weekend in Fall of 2019: "We want our students to thrive and prosper and live meaningful lives. And we believe that the model of education that gives them exposure to ideas, helps some formulate questions, be critical thinkers, be intellectually curious – that life is going to be a meaningful life for them. When we think only about preparing students for a career or a job – and it's important, obviously, to find meaningful work – but when we think about it that way, we're not really thinking about the context of the twenty-first century when very few students will get a job that they stay in for the next 30 or 40 years. Instead, they will find themselves in fields like computer science... Here at Reed... We care about education. We care about ideas. We care about thinking. We care about the world around us" [31]. Visiting Assistant Professor of Physics at Reed Andrew Larkoski commented on what was special for him to work with Reed students, the best part about them is 'their fearlessness'. According to him, physicists acquire a large conceptual 'baggage' in the course of their professional work and sometimes follow assumptions that can narrow their perspective. On the other hand, Reed students often are capable of coming up with unusual and interesting ways to resolve important problems [4]. In their responses to similar questions, Reed students and Reed alums have responded in general that: Reedies are problem-solvers, creative thinkers, self-starters, innovators [33, p. 134].

Reed College students and faculty are very proud of their so called "honor principle", which, contrary to many other universities, is not a part of any required modes of behavior, nor it is written clearly in any statements or constitution. The honor principle has no official definition and requires Reed community members to internalize the honor code of conduct. "The most common

interpretation of the Honor Principle mentions that any action that causes unnecessary pain or discomfort to any member of the Reed community, group within the community, or to the community as a whole, is a violation of the Honor Principle" [40]. However, this is only one and general version of the principle, each member of the community has to come to their own understandings and interpretation of the honorable behavior within the community. "The honor principle allows Reed to develop our values as a community. Coming to find what you think honorable behavior is and what the Honor Principle means is a morally and intellectually challenging part of your Reed education" [40]. It assumes that individuals recognize their responsibility within the community without specific rules imposed on them. Based on author's personal experience as a student and faculty member at Reed College, one other example of such principle is that usually when Reed students are given their exam to take home, they are expected not to look into any resources that should not be used and generally that is how students behave. Finally, the honor principle partially is responsible that Reed students, sometimes for the whole duration of their study, chose not to see their grades for classes (professors only write comments not grades on submitted papers or exams), that assumes that the main goal of their Reed education is knowledge not grades, that also assumes that students trust their professors to grade them in a just and fair way and evaluate their performance on the individual development, not solely by comparison with their peers through grades.

This section highlights the special features of Reed College: the way it structures its educational curriculum, the unique working relationships between the faculty and students, based more on collaboration than mentoring, the honor principle that signifies professional mutual trust and respect of students and professors and the fact that Reed students and alums stress that Reed education prepares them to solve complex problems, be creative and be innovative, the features that, according to the recent Davos Forum, are the most important to meet the challenges of the 21st century. The next section evaluates how successful Reed alumni are in meeting challenges in the 21st century after graduation.

Analysis. The Reed College Institutional Research monitors the alumni success and evaluates the success of Reed in several ways. They look at the following outcomes for the alums: the number of prestigious awards and distinctions received (such as Fulbright, Carnegie Endowment for International Peace, Rhodes scholars); the number of Ph.Ds. and Ph.D. productivity in various disciplines; occupational distribution of alumni; top employers of Reed graduates and self-employment; most frequent graduate schools (to see whether Reed graduates get into the most prestigious graduate schools); separately they evaluate high med-school acceptance rate; they also compare Reed with other schools in terms of undergraduate origins of doctoral degrees.

Among the awards and recognition one can note (the data is as of 2014): 29 awards from the American Academy of Arts and Sciences; 109 Fulbright students; 61 Guggenheim Fellowships; 175 National Science Foundation Fellowships; 67 Thomas J. Watson fellows, 32 Rhodes Scholars [3]. The top employers of Reed graduates nationally are typically institutions of higher education. The most frequent higher education employers of Reed College graduates are: the University of Washington; Oregon Health & Science University; Reed College; the University of California, Berkeley; Stanford University; Harvard University; Columbia University; Portland State University; the University of California, San Francisco; the University of Chicago. Overall, there are over 5,090 employers of currently employed Reed graduates. More than 1,238 Reed graduates are currently self-employed. The most frequent non-higher education current employers are: Microsoft Corporation, Kaiser Permanente, Portland Public Schools, Intel Corporation, State of Oregon, the U.S. Dept. of State, the National Institutes of Health, City of Portland, Apple Inc., the U.S. Dept. of Agriculture. Based on 2014 Reed College Alumni database, 28% of graduates work in business, 25% in education, 19% are self-employed [2]. The list of the graduate schools attended by Reed alumni includes some of the most prestigious in the world. The top 4 for MBAs are: the University of Chicago, Harvard University, Portland State University, the University of Pennsylvania; for JDs: Lewis and Clark Law School, the University of California

Berkeley, the University of Oregon, the University of Washington; for Ph.Ds.: the University of California Berkeley, the University of Washington, the University of Chicago, Stanford University; for MDs: Oregon Health Sciences University, the University of Washington, Washington University (St. Louis), Stanford University [2].

Within the United States, the research shows that in 1997–2006, the top five schools with doctoral degree productivity included: the California Institute of Technology, Harvey Mudd College, Reed College, Swarthmore College, Massachusetts Institute of Technology; and in 2003–2012 the list consisted of the California Institute of Technology, Harvey Mudd College, Swarthmore College, Reed College and Carleton University. This is a very high score for a small liberal arts college [14]. Finally, although Reed produces one of the highest percentages of graduates with Ph.Ds., many alumni don't follow academic careers and often pursue their jobs in areas unrelated to undergraduate majors. In this way, their job paths don't follow linear progression and in this sense reflect the realities of today's world [38, p. 9]. This high rate of Reed alums successfully finding jobs after graduation from the college correspond to the findings of Hart Research Associates that employers prefer to hire those job candidates that have skills perfected by good liberal arts and science education. The majority of employers in HRA surveys claimed that they want their employees to have critical thinking, clear communication skills and solving complex problem over a specific major [19; 20].

The Reed Alumni Association celebrated the 100th anniversary in 2015 and has about 17,000 living members [38, p. 9]. Together with Reed career services, the Alumni and Reed College students' parents started "Life Beyond Reed" Initiative. This initiative offers a broad platform that "supports the career development of current students, recent graduates, and midcareer graduates through mentoring and experiential learning opportunities like formal internships and shadowing experiences" [38, p. 9]. The recent study stated that Reed College has an elaborated alumni network that helps to maintain contacts not only with alumni of the same graduation year but also get in contact with Reed alums from any year of graduation. That can help not only to establish networking job search contacts but also

help in things outside of professional life. There are different alumni programs with many resources available for alumni. The special site, Reed switchboard, a grass-root alumni initiative for contacts between Reed graduates was created by Reed alum. [33, p. 134]. There are many famous alumni of Reed College. The creator of influential theories on ethnopolitical conflict, Professor Ted Robert Gurr (1936–2017) graduated from Reed College in 1957 with a major in psychology and always commented on the importance of his Reed undergraduate education in his life and career. Gurr's work brought the study of political violence on the whole new level. His many famous works include: the award winning *Why Men Rebel*, the book that looks at why people engage in political violence has become a classic in social sciences [18], the project *Minorities at Risk* that Gurr created at the University of Maryland to analyze 283 politically-active communal groups in the world from 1945 to 2006 [29] and some of his last books such as *Political Rebellion* [17].

Steve Jobs is perhaps the most famous person who studied at Reed. Jobs never graduated but stayed around, “taking courses in calligraphy, dance, and Shakespeare that would prove invaluable in designing the revolutionary Apple Macintosh” [37]. In 1991, Reed College gave Steve Jobs a *Vollum Award for Distinguished Accomplishment in Science and Technology*. In his Reed Convocation speech Jobs said: “I can assure you that as the patina of time takes its toll, I thank God I had these experiences here... It has helped me in everything I've ever done, although I wouldn't have guessed it at the time” [24]. In 2005 at the Stanford commencement, Jobs stated: “If I had never dropped in on that single calligraphy course in college, the Mac would have never had multiple typefaces or proportionally spaced fonts” [25]. In the obituary for Steve Jobs Reed College noted: “He was the quintessential Reedie... In his crystalline intensity, his obsession with big ideas, his hunger for perfection, he personified the classic Reed archetype... the most important course he audited at Reed was probably calligraphy... (Steve Jobs claimed. – D. P.) I learned about serif and san serif typefaces, about varying the amount of space between different letter combinations, about what makes great typography great... It was beautiful, historical,

artistically subtle in a way that science can't capture, and I found it fascinating. None of this had even a hope of any practical application in my life. But 10 years later, when we were designing the first Macintosh computer, it all came back to me. And we designed it all into the Mac” [30].

Recently Reed's Cooley Gallery director, Stephanie Snyder (Reed Class of 1991) came to realization that calligraphy was very important to Reed's history and decided to bring it back to campus in the form of Calligraphy Initiative that is open to students, faculty, alumni and staff. In the response to the question whether calligraphy is an outdated skill in a contemporary world, the founders of the initiative respond: “Sometimes walking, like handwriting is more efficient and practical... The same is true of beautiful writing” [5]. This is something that Steve Jobs always found invaluable reflecting back on his Reed College calligraphy class and something that we can see now in his Apple creations.

Steve Jobs' first job application, written when he was still at Reed, demonstrates by its every point how NOT to write a job application. Under the prompt “Access to transportation”, Jobs answered, “Possible but not probobale[sic].” On the application Jobs also spells his last name with a lowercase j, provides no phone number, and lists his address simply as “reed college” without any additional information. Under special abilities, Jobs wrote, “electronics tech or design engineer. digital. – from Bay near Hewitt-Packard[sic]”. Yet, he became one of the most successful people of our time. One of the interesting stories about how to think outside of the box and sometimes not to waste your time or energy on trying to fit but rather learn who you are and what your true dreams are [34].

One of the most important ways to learn who you are could be engaging internationally. Susan Gillespie wrote an influential work on the nature of ‘deep partnerships’ [9; 15; 16], and the role these partnerships can play in preparing graduates of liberal arts and science programs to adopt to the fast-changing world. According to Gillespie, ‘deep partnerships’ to be effective must be based on principles of ‘mutuality and equality’. In deep international partnerships, partner universities “make a conscious attempt to listen, to be aware of the needs, goals, feelings and ideas

of” each other, “consciously seek to work in ways that serve not only our own personal or institutional or national ends (though these are all important), but those of our partners as well”. These partnerships should incorporate reciprocity, tolerance and respect, and “learn with and from not just of people in other countries” [16, p. 506-526].

Under the leadership of Director of International Programs Dr. Paul DeYoung, Reed College has been building successful international partnerships and engaging in a broad international outreach thus responding to challenges of the 21st century. The world is becoming more globalized. Liberal arts and science education is establishing itself outside of the United States [41]. Thus, it is becoming very important to be connected to the world beyond the borders of the United States.

At Reed, the incoming class of 2019 has 10% of international students, which is a high percent for a small liberal arts college in the West Coast of the USA [43]. International students come from 35 countries, including, Australia, Canada, China, Ephiopia, France, Guatemala, India, Mauritius, Mexico, Singapore, South Korea, Turkey, United Kingdom. For students interested in learning languages and cultures, there are five language houses-dorms: Russian, French, German, Spanish and Chinese. Reed students can spend a semester or year abroad, including various universities in 29 countries that include Argentina, Australia, Botswana, China, Turks and Caicos, Russia, United Kingdom and others. Reed maintains deep partnerships with some of the schools on the list, including a rather unique relationship with the Faculty of Liberal Arts and Science at St Petersburg University, first Russian liberal arts program [28; 32].

Reed has several Davis United World College Scholars enrolled. Davis World Scholars program was designed to help college campuses become more internationally diverse. One of the United World College Schollars at Reed, an environmental studies major, spent summer working in Mangula village in Tanzania, engaging with the local cooperative Kilombero Youth Movement against Poverty. She worked with the community on a new water pump and taught village children to record their environment with digital cameras while also learning African drumming and dancing [11]. Many graduates of

Reed College pursue international careers, stating that Reed experience gave them a broad exposure to the world and realization that they should not limit their future. For example, Sheldon Yett, Reed class of 1986, is now serving as a UNICEF representative in the Pacific Islands, he oversees the territory of 10.7 million square miles of ocean, 14 sovereign nations, hundreds of tropical islands and atolls, and there are 1.2 million children in that area, many of which are struggling with poverty and other problems. A substantial part of Yett’s work is to figure out how to deliver food to people who need it even if they live in far remote and difficult to reach places. According to Yett, “the liberal arts education he got at Reed prepared him for the challenges of a career that has taken him to hot spots across the globe. His college experiences helped hone his ability to adapt to change and new environments, to come up with novel approaches to entrenched problems, and to dedicate himself to helping others in need” [22].

This section analyzes how successful former Reed students in finding their place in the 21st century world are and concludes that they are very successful in both more traditional evaluation of success (going to top ranking graduate, medical and law schools) and in other ways that are very important in today’s highly globalized world: engaging internationally as well as following one of the major aspirations of Reed students – learning who you are and fitting into the 21st century world accordingly (e.g. Steve Jobs). The next section summarizes results as to how Reed College meets the global challenges of the 21st century.

Results. This study demonstrates that Reed College seems to be successfully meeting the global challenges that universities face in the 21st century. Reed has been building skills that have been listed as the top priorities in the 21st century in order to meet the demands of the fast changing reality. Reed has also responded to the financial challenges of the 21st century by, among other things, has been building successful alumni donations. Reed has responded to the challenges of the 21st century employment market demands for STEM majors by offering new majors, dual degrees and most importantly, focusing on its traditional strength, close interactions between students and faculty.

Reed’s experience confirms Cech’s claim that good liberal arts and sciences education can

prepare students for a successful graduate career in hard sciences [12]. According to recent report, Reed College ranked no. 1 in the nation in the percentage of STEM majors (science, technology, engineering, mathematics) who continue their education for Ph.D. in STEM fields [36]. The report studied Ph.D. degrees received from 2007 to 2016 and was conducted by NORC center of the University of Chicago for the Council of Independent Colleges, the nonprofit association that supports university leadership. It is important to note that Reed College is not a member of this association so the report is not biased in that way. It is important to acknowledge that the absolute number of Reed STEM Ph.Ds. is lesser than from traditionally engineering-producing schools: 288 Reed graduates got a STEM Ph.D. between 2007 and 2016 as opposed to 742 from the California Institute of Technology, but the percentage of STEM majors that obtain Ph.Ds. in the field – “institutional yield ratio” – puts Reed at the top.

The key to Reed’s success is the close research collaboration between faculty and students. Reed’s science program has top professors who work very closely with students on research projects in a variety of subjects: biology, biochemistry, chemistry, computer science, environmental studies, math, neuroscience, physics, statistics. The goal and Reed’s long tradition is for students and faculty to learn together in all majors and programs.

Overall, the story of Reed College seems to confirm Leon Botstein’s thesis: “The history of education... has shown that teaching and learning have easily absorbed technological progress since the Renaissance – movable type, modes of mechanical reproduction, and telecommunications without altering their fundamental human character... The command of language is central to the liberal arts. A primary goal of all liberal arts education must be the nurturing of a sophisticated command of language in writing, reading, and speaking... Furthermore, these skills must be augmented by an understanding of scientific methods, the rules of evidence, and the various approaches to the critical interrogation of received wisdom and knowledge... The learning that occurs in liberal arts must be consistently active not passive... A student’s academic career in the liberal arts must end with a major academic

undertaking designed and completed by the student...” [10].

Reed College is confirming that even in the 21st century, one has to be yourself, learn what he / she loves to do, learn for the sake of learning, have a quest for knowledge, have an honor principle, have a quest for true knowledge even on unrelated subjects to your profession that will always help you out in life either professional or personal and universities like Reed would help to achieve that.

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