

Post-secondary Education in the 21st Century: What Matters For Effectiveness

Anupama Joshi, Professor, Child Development Department, California State University, Dominguez Hills, US

ABSTRACT

In the wake of the 2008 economic crisis followed by a slow recovery, the conversation about the value, role, and cost of higher education in contemporary society gained prominence in the United States. The work on disruptive innovation (Christensen, Horn, Caldera & Soares, 2011) especially captured the imagination of the higher education leadership. This paper addresses the question of whether or not there is a match between the stated goals of higher education as reflected in student learning outcomes and the skills sought by employers in their newly degreed hires. Some critical assumptions and recommendations drawn from disruptive innovation are examined. Finally, based on experiences as an administrator, strategies for effectiveness are outlined that emphasize responsiveness to student needs to ensure effectiveness.

INTRODUCTION

The great recession of 2008 and the ensuing slow recovery generated an intense dialogue about the role and value of post-secondary education in the United States. Current and prospective students, legislators, private businesses and the public at large have all joined the debate. Two threads of conversation stand out in this streaming dialogue. First, fuelled by the rapidly increasing cost of higher education questions are being raised about the role of higher education in American society today. The issue of value is an important one for the academy, irrespective of the external pressures it faces. Any enterprise, if it hopes to endure, must know its identity and its purpose, and be able to communicate it with a certain measure of self- assurance. As Curell (2014) notes, the questions that higher education must answer are, “What are we for? What’s the goal?” (p. 23). What exactly does post-secondary do and how is it connected to the welfare of the country and gainful employment of the educated?

Second, there are calls for change ranging from a re-examination of the business model of post-secondary education, at a minimum, to its radical reinvention. The world of doing business has changed with some functions or parts of the business process becoming obsolete and being pushed out of existence. The “business” model used in post-secondary education has largely stayed the same, and the question of whether a change in this model is either inevitable or urgently needed is consistently raised.

In this paper, I summarize the discussion related to these two themes in the conversation about post-secondary education – the goals of higher education which speak to its value in the larger societal context and the sustenance of the current business model of higher education. I also note what students, especially first-generation college goers, may need from institutions of higher learning to be successful based on some research as well as my targeted conversations with freshmen students in the College of Health, Human Services, and Nursing.

Most of the ideas presented in this paper have been formulated with public institutions in mind. They may or may not apply to private institutions of higher education. I use the terms post-secondary and higher education interchangeably.

WHAT IS THE ROLE AND VALUE OF POST-SECONDARY EDUCATION?

Periodically, various constituents such as corporations and other potential employers, public representatives in the government and the general public raise questions about what higher education is doing in shaping a productive citizenry. In periods of economic recession, that question is imminently in the form of examining the role of higher education in ensuring employment of newly degreed individuals. This in turn, leads to the related question of whether the money spent on one's education is worth the outcome (employment status and financial gain). The current iteration of this conversation has included concerned voices of employers noting that graduates that they are hiring lack the skills for the job and companies have to train them so that the new hires can acquire these skills. Such observations can cause consternation among the general public, and even more so in the context of burgeoning student loans. Are institutions of post-secondary education losing touch and not including relevant content and experiences in the curriculum they offer? Is there a real and damaging disconnect between the goals of post-secondary education and what is truly needed in society for advancement?

To answer this question, I start by examining the goals of higher education as articulated by the Association of American Colleges and Universities (AAC&U), and the recommended Degree Qualifications Profile (DQP) prepared by the private non-profit Lumina Foundation (2014) whose purpose is to increase college attainment in the population. I then compare the contents of the two with those of surveys of potential employers on what skills and knowledge sets they would like to see in their new degreed employees.

The AAC&U has identified liberal education to be the core value of post-secondary education for the benefit of individual students as well as to promote “economic creativity and democratic vitality” (AAC&U 2011, 1). It defines liberal education as

“An approach to college learning that seeks to empower individuals and prepare 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 at least one specific field of study. It helps students develop a sense of responsibility, strong cross-disciplinary intellectual, and practical skills (e.g., communication, analytical and problem-solving skills) and a demonstrated ability to apply knowledge and skills in real-world settings.” (AAC&U, 2011; p. 3)

Learning Outcomes Defined by the AAC&U:

The AAC&U articulated the following essential learning outcomes drawn from a multiyear dialogue between hundreds of colleges and universities.

Beginning in school, and continuing at successively higher levels across their college studies, students should prepare for twenty-first-century challenges by gaining:

- Knowledge of human cultures and the physical and natural world
 - Through study in the sciences and mathematics, social sciences, humanities, histories, languages and the arts
 - **Focused** by engagement with big questions, both contemporary and enduring
- Intellectual and practical skills, including
 - Inquiry and analysis
 - Critical and creative thinking
 - Written and oral communication
 - Quantitative literacy
 - Information literacy
 - Teamwork and problem solving
 - **Practiced extensively**, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance.
- Personal and social responsibility, including
 - Civic knowledge and engagement – local and global

- Intercultural knowledge and competence
- Ethical reasoning and action
- Foundations and skills for lifelong learning
 - **Anchored** through active involvement with diverse communities and real-world challenges
- Integrative and applied learning, including
 - Synthesis and advanced accomplishment across general and specialized studies
 - **Demonstrated** through the application of knowledge, skills, and responsibilities to new settings and complex problems

Learning Outcomes identified in Lumina Foundation's Degree Qualifications Profile (DQP):
The Degree Qualifications Profile (DQP) “provides a baseline set of reference points for what students should know and be able to do for the award of associate, bachelor’s and master’s degrees, regardless of their fields of study.” (Adelman, Ewell, Gaston and Schneider 2014, 4).

The categories of learning identified in the DQP are as follows:

- Specialized knowledge
*Demonstrate command of the vocabularies, theories, and skills of the **field of study** on which a student has focused.*
- Broad and integrative knowledge
Bring together learning from different fields of study. Broad, Integrative Knowledge represents a priority for the entire curriculum.
- Intellectual skills
- Analytic Inquiry
The ability to recognize, describe and solve problems through differentiation, categorization and other relevant tools of inquiry and reasoning.
- Use of information resources
The ability to find, organize and evaluate information to work with it and perhaps contribute to it.
- Engaging diverse perspectives
The intellectual flexibility and broad knowledge that enables perception of the world through the eyes of others.
- Ethical reasoning
Analysis and resolution of issues involving conflicts in cultural, professional, occupational and economic codes of conduct.

- Quantitative Fluency
The adept use of calculations and symbolic operations, including essential arithmetical skills, visualization, symbolic translation, and algorithms.
- Communicative fluency
Demonstrated skills, oral and written, in effectively creating and expressing a sustained argument, narrative or explication to multiple types of audiences and in more than one medium or language.
- Applied and collaborative learning
Demonstrate what one can do with what one knows by addressing existing problems.
- Civic and global learning
Articulate, engage with, reflect on and respond to political, social, environmental and economic challenges at local, national and global levels.

How do these student learning outcomes of post-secondary education match with what potential employers consider to be important job skills? I examined the information/data presented in two separate reports – a report on future work skill by the Institute for the Future (Davies, Fidler and Gorbis 2011) and an online survey by Hart Research Associates (2013). The IFTF collated information from *Fortune* 500 companies, governments, and foundations to delineate skills and proficiencies that will be needed in the future across different jobs and work settings. Hart Research Associates conducted an online survey that included 318 employers of organizations that have at least 25 employees and required at least 25% of new hires in their organizations to hold either an associate's (2-year) or a bachelor's (4-year) degree.

The IFTF report lists the following ten skills for the future workforce:

1. Sense-making
Ability to determine the deeper meaning or significance of what is being expressed
2. Social intelligence
Ability to connect to others in a deep and direct way, to sense and stimulate reactions and desired interactions
3. Novel and adaptive thinking
Proficiency at thinking and coming up with solutions and responses beyond that which is rote or rule-based
4. Cross-cultural competency
Ability to operate in different cultural settings
5. Computational thinking

Ability to translate vast amounts of data into abstract concepts and to understand data-based reasoning

6. New-media literacy

Ability to critically assess and develop content that uses new media forms and to leverage these media for persuasive communication

7. Transdisciplinarity

Literacy in and ability to understand concepts across multiple disciplines

8. Design mindset

Ability to represent and develop tasks and work processes for desired outcomes

9. Cognitive load management

Ability to discriminate and filter information for importance, and to understand how to maximize cognitive functioning using a variety of techniques

10. Virtual collaboration

Ability to work productively, drive engagement, and demonstrate presence as a member of a virtual team

The report notes that educational institutions pay special attention to

- a) Critical thinking and analytical skills
- b) Integrating new-media literacy
- c) Enhancing social intelligence through experiential learning
- d) Lifelong learning
- e) Interdisciplinary training

The online survey by Hart Research Associates revealed the following

1. Employers prioritized critical thinking, communication, and problem-solving skills over a job candidate's major field of study. (4)
2. For career success, college graduates must possess both field-specific knowledge and skills as well as a broad range of skills and knowledge. (5)
3. Respondents thought that institutes of post-secondary education equipped graduates with entry level skills and knowledge but few graduates have the skills and knowledge to advance. (6)
4. Employers placed great emphasis on job candidates' ethical judgment and integrity, intercultural skills and capacity for professional development when hiring. (6)

Journal of Academic Perspectives

5. Employers were likely to believe that there is a need for post-secondary institutions to *increase* the focus on critical thinking, complex problem-solving, communication, and applying knowledge to real-world settings. (7)

How well do skills needed in the market match up with the student learning outcomes that drive the curriculum? Table 1 below indicates that there is a near complete overlap in the two.

Table 1

Market Skills Report	Identified Skill	Corresponding Student Outcome	
		AAC&U	DQP
	Sense making	Inquiry and analysis	Analytic Inquiry
	Social intelligence	<u>Teamwork and problem solving</u> ; Personal and social responsibility	Collaborative learning
	Novel and adaptive thinking	Integrative and applied learning	Analytic Inquiry
	Cross-cultural competency	Intercultural knowledge and competence	Engaging diverse perspectives; civic and global learning
	Computational thinking	Quantitative literacy	Quantitative Fluency
	New-media literacy	Information literacy	Communicative fluency
	Trans disciplinaryity	Knowledge of human cultures and the physical and natural world	Broad and integrative knowledge
	Design mindset	Intellectual and practical skills; Integrative and applied learning	A combination of intellectual skills
Institute for the Future	Cognitive load management	Inquiry and analysis; Critical and creative thinking	A combination of intellectual skills
	Virtual collaboration	Teamwork and problem solving; Information literacy	Communicative fluency; Collaborative learning

Journal of Academic Perspectives

Table 1 Continued

Market Skills Report	Identified Skill	Corresponding Student Outcome	
		AAC&U	DQP
	Critical thinking	Critical and creative thinking	Analytic Inquiry
	Communication	Written and oral communication	Communicative fluency
	Complex problem solving	Inquiry and analysis, and critical and creative thinking	Analytic Inquiry
	Field specific knowledge and skills	Implicit outcome in Synthesis and advanced accomplishment across general and specialized studies	Specialized knowledge
	Broad range of knowledge and skills	Knowledge of human cultures and the physical and natural world	Broad and integrative knowledge
Hart Research Associates	Ethical judgment and integrity	Ethical reasoning and action	Ethical reasoning
	Intercultural skills	Intercultural knowledge and competence	Engaging diverse perspectives & Civic and global learning
	Capacity for professional development and continued learning	Foundations and skills for lifelong learning	No clear outcome

The only specific skill that is not explicitly articulated in the AAC&U’s student learning outcomes nor the DQP is new-media literacy. While one can deduce that an up-to-date curriculum would include the use of new media under information literacy or the broad umbrella of intellectual skills, it may be time to consider specifying new-media literacy in student outcomes. Related to the skill of new-media literacy is another skill of virtual collaboration that is also not explicated in either set of student outcomes. This could be an indication that the skills envisioned higher education for students, such as collaborative learning is likely to be implemented in a virtual climate. Whether or not those skills translate well from face-to-face contexts to virtual contexts remains to be seen.

Overall, it appears that student learning outcomes identified by both the AAC&U the DQP are representative of what is needed in the market. A skill that has received much attention recently

is that of social intelligence. I once attended a meeting with representatives from different federal and local government agencies in which there was a consensus that these agencies would prefer to hire someone with an average B grade who can get along with others rather than an A-grade graduate who did not have the skill to get along with others. Yet the emphasis on knowledgeability and intellectual skills remained unchanged. As Okker (2014) suggests, perhaps we need to be better at unpacking the experiences we plan for students and increase students' awareness of skills that they are homing in those experiences. For example, working in groups requires coordinating one's goals with those of others in the group. It also requires adjusting to differing personalities and working styles than one's own. Typically most students focus on the group project, its content, quality and timely completion. However, reflecting on group dynamics, systematically analyzing one's responses and growth in subsequent group experiences, is rarely done. Such conscious appraisals of one's experiences, learning and development could enhance outcomes related to social intelligence. This approach could be especially effective in field experiences.

THE BUSINESS MODEL OF HIGHER EDUCATION AND ITS SUSTENANCE

The rising cost of post-secondary education to the student has come into sharp focus because in the wake of the great recession, state contributions to state universities dropped dramatically and these universities were left with little option other than to make up for the shortfall by increasing tuition. There are instances, at the same time, of some employers noting a lack of appropriate preparation of undergraduates seeking employment making some wonder whether higher education in the United States is worth its cost. The rising cost has also led people to speculate if higher education is failing in its promise to create social equities through access to all.

In 2011, a report on disruptive innovation in post-secondary education by Christensen, Horn, Caldera and Soares presented a case for a radical rethinking of the business model of higher education asserting that the social, economic and technological states in the United States are ripe for such an inevitable disruption. The authors use examples from the business world to illustrate clearly that (1) sophisticated products are typically expensive and supported by a small segment of the population, (2) the entry of innovation into the market signals the beginning of a breakdown of existing business process and/or product. The two elements that will enable disruptive change in higher education are technology in the form of online learning and designing innovative business models.

A key change that, according to the authors, has occurred which calls for a radical change in the way post-secondary education is set up is that of the easy and ubiquitous availability of information. Before the internet was invented, information was not available to all and Universities was where it was disseminated. However, Universities are no longer required to access specialized information. Technological advances have not only increased access to information but also enabled the delivery of curriculum. So can online learning resolve some of the cost-control challenges that post-secondary education faces?

While universities served as institutions that transmitted information, they were not merely centers of information dissemination. Information was disseminated, but it was also generated and acted on by students with guidance from the faculty which led students to develop certain skills. The development of these skills related to evaluating, selecting and combining learned information to solve problems was always an important goal of post-secondary education. The faculty performed and continued to perform the critical function of developing the curriculum, which involves identifying relevant information, ordering it in a meaningful progression for students to master, and formulating exercises and problems that provide students with the opportunity to develop the skills above. Also, to this activity, the most critical function of the faculty is to provide guidance and feedback to students on their thoughts as well as their work. So there is a distinct difference in accessing information about a subject matter on one's own and "accessing" information by going through a planned program of study that is put together by faculty.

Online instruction as a mode of delivery has indeed proven to offer some advantages to students, primarily in the form of convenience. Students and faculty need not be bound by geography. The online format also allows students to pace their learning and return to earlier lectures or course modules if they need to. Such flexibility can support students with certain learning styles or who may find live face-to-face course format somewhat challenging for various reasons (see, for example Cottle and Glover 2011). But does the online format offer a chance to improve the quality of education and learning? Does it offer the opportunity to reduce the cost of education? Even though the format itself has gained much popularity, there is no systematic evidence that would lead us to believe that *it could lower the cost of instruction while maintaining the quality of student outcomes*. Investigations on the effectiveness of online teaching have relied heavily on student satisfaction with the experience as opposed to actual student learning outcomes

(see for example Bergstrand and Savage 2013), the suitability of the online environment for the particular type of learning activities (Barbera 2006) and on theoretical frameworks (Mashaw 2012, Bradley 2011, Gaytan 2005). The effectiveness of online education is a complex process (Bradley 2011) with factors such as the level of course (Chen, Jones, and Mooreland, 2013) and blended approaches (Arbaugh 2014) playing a role in it. The reason online delivery will, by itself, not likely bring down college costs is because of student/faculty interaction. Therefore, the student faculty ratio is central to maintaining the quality of the educational experience, a fact that Christensen et al., brush aside.

However, technological advances could be used to reduce *non-instructional* costs. Currently, the portion of the fees that go directly toward faculty salary is low, which means that it would be worthwhile to examine other areas of cost that could be modified. Some savings could be gained by leveraging technology to streamline business processes. For example, in California, a student, through primary and secondary education, is assigned a student identification number which is associated with all academic records of that student.

When a student enters any baccalaureate and/or doctorate granting institutions (s)he is assigned a new identification number. Should the student change institutions mid-stream, the number changes again. On the face of it, this may not appear to be particularly problematic. However, requiring new ID numbers results in the loss of an opportunity to streamline processes. Here's how. One of the most time and labor involved aspects of being admitted into an institution is the application and the subsequent evaluation process. Of this, the one element that requires attention and follow-through is the submission of official transcripts. A student must request official transcripts from her high school (or a two-year institution), and make sure that they reach the admissions office. The admission staff, at its end, must manage the application of the student and ensure that transcripts are received, and grade point averages accurately entered. This entire process could become shorter, more accurate and less labor extensive if students retained their IDs through their entire educational trajectory. All student applicants would need to do is to give permission to the institution they attended to share their transcripts with the institutions they want to attend and that they are digitally shared. This could potentially lower the cost of processing that Universities must charge the applicants.

Another point that Christensen et al., make is that if one were to describe the current business model of universities, it appears to be a mix of three different types of “shops.” Thus, universities serve as solution shops (diagnosing and solving unstructured problems; faculty research), value adding business process (repetitive process of transforming units to increase their value; common curriculum transforming students), and facilitated user network (participants exchange things with each other; discussion forums in which faculty and students from different universities participate). This makes the business of higher education unwieldy and, in the end, less effective relative to its cost. The authors call for a more differentiated academy – some institutions can pursue the model of research focus, and others can make teaching their primary mission. Such a distinction already exists. Undergraduate research is a critical experience for all students irrespective of the institution they attend. It is not reflective of teaching institutions wanting to emulate Harvard University, as the authors claim. Post-secondary faculty has always known the importance of research experiences for undergraduate students and the AAC&U recognized it formally in its report on high impact practices (AAC&U 2010). There is also some danger in trying to force higher education into the mold of existing business models. Higher education, like health care, does not compare very well with manufacturing businesses. Manufacturing lacks the component of the transformation of human beings over time. If students were considered units subject to a common manufacturing process, is there an existing business that is concerned with the satisfaction of the units themselves? Students are extremely variable not only within a single campus but also between campuses. While there is a common transformational process used in universities (the curriculum), the faculty and staff constantly guide students and interpret the common process to make the transformation successful. In sum, while Christensen et al.’s observations and call for a rethinking of the business model of higher education merit consideration, the arguments need reworking for a better match with reality.

Finally, I would like to note some related thoughts regarding effectiveness. One, viewing matters through a “business” lens, we need to make “customer service” to our students more than a cliché. Every campus serves a population of students that has its own characteristics, strengths, and vulnerabilities. Customer service must consist of a continuous and an earnest inquiry into students’ lives as they relate to their education. The first or freshmen year is notorious for a high level of student dropout. It is a period of transition that can put a tremendous demand on students’

mental, physical and psychological resources. Institutions offer various experiences and support systems for freshmen to ensure that students' transition to college is a successful one. As an administrator, I met regularly with freshmen and talked to them about what their college experience was like. These conversations were quite revealing. Students typically liked college and were glad that they had decided to attend college. The two most common challenges that students faced were time management and overcoming shyness to cultivate new friendships. On mostly non-residential campus students are not necessarily in each other's company over any extended period. This situation is different from the one they just left in which they knew all their peers for at least two to four years. Also, they have moved from a rather predictable structure into one which *they* must create. I also learned that some of our students struggled in their first semester with arranging transportation. Public transportation in Los Angeles County is spotty and with considerable distances to cover, having a reliable ride to campus and back is critical. Such information is not necessarily revealed in surveys or focus groups, but it is key in determining how best we can serve them so that they can persist and not get discouraged.

Two, we need a deeper and ongoing dialog with potential employers about post-secondary education and what is needed for all to be effective. We need to understand better what newly hired graduates need to have when they enter their job and to explain to employers what they can reasonably expect their graduates to acquire from their education. Such communication can lead to learning outcomes that are meaningful in the workplace. I had once brought together a group of professionals from a hospital setting to meet with the heads of departments in our college to explore the possibilities of collaboration for experiential learning for students. The health professionals noted that while students typically knew theory and research, they struggled with its application with clients/patients. When I asked if the skills they were thinking of can be acquired before being immersed in the clinical setting, they remarked after some thought that it might be difficult for students to cultivate the skills while in school. This conversation eventually led to the development of an internship program shaped both by faculty and the practicing professionals.

Finally, there would be some benefit in taking a closer look at the models of financial aid and meaningful indicators of the effectiveness of post-secondary education. If students are graduating with large debts (typically larger than the cost of tuition and books), we should consider more flexible models of aid so that students who are working have the option to borrow only the

amount that they wish to. The current model values speed or time to graduation. Ideally, we would want students to move through their educational experiences smoothly without interruptions. However, the model that considers time to graduation as the critical indicator of the success of higher education does not take into consideration that students may not be able to devote their entire time to school because of other life obligations or choices. It might be worthwhile to ask *if* taking longer to graduate meant less debt, would that perhaps be better?

CONCLUSION

To conclude, there is a good match between the goals of post-secondary education as reflected in student learning outcomes and skills and abilities required in the different entry level jobs. There are newer or modified skills that might be needed for new professionals. We must stay vigilant and ensure that the emerging contexts and needed skills are addressed in our students' educational experiences.

REFERENCES

- AAC&U (Association of American Colleges and Universities). 2011. *The LEAP Vision for Learning: Outcomes, Practices, Impact, and Employers' Views*. Washington, DC: AAC&U.
- 2010. *Five High-Impact Practices: Research on Learning Outcomes, Completion and Quality*. Washington, DC: AAC&U.
- Adelman, Cliff, Peter Ewell, Paul Gaston, and Carol Geary Schneider. 2014. *The degree qualifications profile: A learning-centered framework for what college graduates should know and be able to do to earn the associate, bachelor's or master's degree*. Indianapolis: Lumina Foundation.
- Arbaugh, J B. 2014. What might online delivery teach us about blended management education? Prior perspectives and future directions. *Journal of Management Education*, 36 (6): 784–817.
- Barbera, Elena. 2006. Collaborative knowledge construction in highly structured virtual discussion. *The Quarterly Review of Distance Education*, 7 (1): 1-12.
- Bergstrand, Kelly and Scott V. Savage. 2013. The chalkboard versus the avatar: Comparing the effectiveness of online and in-class courses. *Teaching Sociology*, 41 (3): 294-306.
- Bradley, Wray E. 2011. A conceptual framework for the design and evaluation of online learning modules in professional training and academic education in business. *The Business Review*, 18 (1): 20 – 27.

- Hart Research Associates. 2013. *It takes more than a major: Employer priorities for college learning and student success*. Washington, DC: Hart Research Associates.
- Chen, Clement C, Keith T. Jones and Keith A. Mooreland. 2013. Online accounting education versus in-class delivery: does course level matter? *Issues in Accounting Education*, 28 (1): 1-16.
- Christensen, Clayton M, Michael B Horn, Louis Caldera, and Louis Soares. 2011. *Disrupting College: How disruptive innovation can deliver quality and affordability to post-secondary education*. San Mateo, CA: Innosight Institute
- Cottle, Nathan R. and Rebecca J. Glover. 2011. Teaching human development: A case for blended learning. *Technology and Teaching*, 38 (3): 205-208.
- Currell, Dan. 2014. What is college for? In *The Quest for Critical Thinking*, 23–29. Washington, DC: Inside Higher Ed.
- Davies, Anna, Devin Fidler, and Marina Gorbis. 2011. *Future Work Skills 2020*. Palo Alto, CA: Institute for the Future for the University of Phoenix Research Institute.
- Gaytan, Jorge. 2005. Effective assessment techniques for online instruction. *Information Technology, Learning and Performance Journal*, 23 (1): 25-33.
- Mashaw, Bijan. 2012. A model for measuring effectiveness of an online course. *Decision Sciences Journal of Innovative Education*, 10 (2); 189-221.
- Okker, Patricia. 2014. It's the faculty's job, too. in *The Quest for Critical Thinking*, 7-9. Washington, DC. Inside Higher Ed.