The Future of Higher Education in the U.S.

Issues Facing Colleges and Their Impacts on Campus

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Introduction

The purpose of this paper is to explore some of the current issues facing higher education and to offer predictions for the future. While no single paper can explore all of the issues, the author will attempt to highlight many of the critical ones that are placing pressure on higher education in the U.S.

Additionally, the author will attempt to make predictions as to how these issues will impact the various sectors within higher education as well as higher education as a whole. The issues facing colleges and universities are complex; therefore, making specific predictions is extremely difficult. However, it is the hope of the author that by raising these issues and offering some thoughts regarding the future, that college leaders will host meaningful discussions about their own institutions. It is clear that change is happening in higher education. It can be embraced, fought or ignored; each with its own consequence.

Issues Facing Higher Education

The issues facing higher education are many. While diminished public funding of colleges and universities and a looming fiscal crisis immediately come to the forefront when considering the major issues, there are others as well. Colleges are slow to change; meanwhile, American society and its priorities are changing more rapidly than at any other time in U.S. history. The political climate for higher education is becoming a minefield. And, the population of the United States is undergoing a monumental shift in its demographics that will see the White majority become a thing of the past within the next decade.

While employers all across the country cry out for more workers that are prepared for the new economy (particularly in medical and technical fields), confidence that our current institutions of higher education are meeting the needs of employers has been called into question. Richard Vedder stated in an article for Forbes that "…the value of a college degree as a device to signal knowledge, intelligence, discipline, ambition and integrity is fraying; jeopardizing the economic advantage of a university education."[1]

For decades faculty and administrators have discussed how students learn, yet by-in-large, classrooms are still arranged in rows facing the front of the room in order to listen to the professor give a lecture. Students don't necessarily learn best this way (and haven't for quite some time), but changing the education paradigm is difficult. However, the need to change this pedagogy is particularly true for the students who are entering college today

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[1] Vedder, Richard (Center for College Affordability and Productivity). "Seven Challenges Facing Higher Education." *Forbes*. August 29, 2017.

(GenZ). These students have been connected to the Internet and multitasking their entire lives; therefore, listening to someone lecture for 60 or 90 minutes is not keeping their attention, nor proving effective.

There are other issues, as well, that are hitting colleges on a daily basis. In his article, "Crucial Higher Education Issues: The Elevator Speech" Carl Strikwerda writes that universities must address the following issues: 1) increasing graduation rates; 2) setting higher standards for our educational institutions; 3) improving the training of academic administrative leadership; 4) fostering more responsible board governance; 5) meeting the expectations of Title IX, Cleary Act, Americans with Disabilities Act, FERPA, etc.; and 6) figuring out how to finance innovation as budgets are reduced.[2]

Richard Vedder also notes that higher education is facing some of its most significant challenges in history. Huge increases in the cost to attend college are turning off both parents and elected officials. The rise of for-profit institutions that are offering cheaper, and sometimes faster approaches to certifying vocational skills are entering the higher education market at a high rate [although some are starting to fail]. As the country becomes more polarized politically, the climate of higher education, where divergent ideas are explored and peacefully discussed is under attack. Public resources for higher education are becoming more scarce as the population ages and faces other significant issues - terrorism, healthcare, etc. - making investing in colleges of less importance to elected officials and their constituents. The perceived value of a college education is under scrutiny with many believing that it is not worth the investment, despite all of the evidence to the contrary. And, at many large universities the cost of athletics and the increase in scandals (often sexual assault) regarding coaches and athletes is causing the public and elected officials to be concerned with the ethics of the *entire* higher education community.[3]

This paper will explore many of these issues in more depth below in an effort to understand them. It will also consider how these issues will continue to evolve and affect colleges in the longer-term. For years futurists have stated that higher education must change or put itself in peril. The confluence of these issues, at this time, may make such predictions a reality.

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[2] Strikwerda, Carl. "Crucial Higher Education Issues: The Elevator Speech." *Inside Higher Education*. October 23, 2015.

[3] Vedder, Richard. Center for College Affordability and Productivity. "Seven Challenges Facing Higher Education" August 29, 2017.

Political Climate

Perhaps the most critical challenge facing higher education is the current political climate. Without the confidence of elected officials and the resources needed to operate colleges and universities, higher education's ability to create a new future for itself will be difficult. Nearly every elected official says that they support education, including higher education. However, the political climate has increasingly become critical of higher education as lacking outcomes, too liberal, in need of stronger oversight, environments of sexual assault and cover-ups, as well as other real and perceived concerns.

As a more conservative (or even "alt-right") tone influences federal and state governments, colleges and universities will continue to come under attack as bastions of liberal thinking. Indeed, higher education has become a political punching bag and is becoming a fundamental divide in our democracy. Those who are less educated feel that people with higher education degrees are elitists who do not understand how the "real world" works. They are also wary of "experts" telling them what to do. Conversely, those who are more educated worry that increasingly the fate of the country is being decided by people who do not truly understand the issues facing the world and take little time to research the facts. This friction is creating a foundation of mistrust for both those with, and those without, a college degree.[4]

In the 2012 election, education levels and the support for particular political candidates (regardless of party) was mixed. More pointedly, there was little correlation between education levels and the candidate a particular sector of the population supported. However, according to several polls, during the 2016 presidential campaign, then candidate Donald Trump did very well with the less educated; while Hillary Clinton did better with college graduates. Candidate Trump seemingly relished his popularity with those who are less educated. On February 23rd, 2016 he stated "If you listen to the pundits, we weren't expected to win too much - and now we're winning, winning, winning the country. We won with the young. We won with the old. We won with the highly educated. We won with the poorly educated. I love the poorly educated."[5]

Further, the divide between those who hold a college degree and those who do not is affecting the overall public opinion about higher education. Who benefits from a college education is being quietly debated all across the country. A debate that is calling into question the long-standing tradition of education as a public good which can be traced to the very formation of the United States. George Washington stated that "*There is nothing which can better deserve your patronage than the promotion of science and literature. Knowledge is, in*

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[4] Runciman, David. "How the education gap is tearing politics apart." theguardian.com. October 5, 2016.

[5] Ibid.

every country, the surest basis of public happiness. In one in which the measures of government receive their impression so immediately from the sense of the community as in ours, it is proportionably essential. To the security of a free constitution it contributes in various ways: by convincing those who are entrusted with the public administration, that every valuable end of government is best answered by the enlightened confidence of the people; and by teaching the people themselves to know and to value their own rights."[6]

The current political debate over whether higher education is a public good or merely a private benefit has the potential to affect the core of federal and state policies now and for the future. The table below summarizes the public good versus private benefit argument.[7]

	Public Good	Private Benefit
Social Context	- Reduced crime rates - Increased charitable giving/community service - Increased quality of civic life - Social cohesion/appreciation of diversity - Improved ability to adapt to and use technology	- Improved health/life expectancy - Improved quality of life for offspring - Better consumer decision making - Increased personal status - More hobbies and leisure activities
Economic Context	- Increased tax revenue - Greater productivity - Increased consumption - Increased work for flexibility - Decreased reliance on government financial support	- Higher salaries and benefits - More stable employment - Higher savings levels - Improved working conditions - Personal/professional mobility

It seems that the growing trend to consider higher education a private benefit, and therefore less worthy of public support, is gaining ground. Even surveys that demonstrate support for higher education, are not overwhelmingly positive. A recent study by Columbia's Teachers College found that *even if it raised taxes*, 52% of the respondents supported more government spending on community colleges and 50% supported more spending on four-year institutions.[8] While presented as positive in the report, these results demonstrate an almost even split opinion on support for higher education in the U.S. This should concern every leader in higher education.

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[6] Lambert, Matthew T. Privatization And the Public Good: Public Universities in the Balance. Harvard Education Press. Cambridge Mass. 2014 p. 27.

[7] Ibid. p. 63.

[8] Lederman, Doug. "Americans Still Believe in Higher Ed's 'Public Good'." *Inside Higher Ed.* July 17, 2018.

Questioning higher education is not limited to a particular political party. President George W. Bush, a Republican, was an advocate of higher education, particularly community colleges; mentioning them in at least one State-of-the-State address. However, he offered little in terms of funding increases and the Spelling Report, directed by his Secretary of Education Margaret Spelling, was highly critical of colleges and universities. Under President Obama, a Democrat, political and fiscal support for higher education increased. However, regulations and accountability for higher education also increased at an accelerated rate. The Obama administration raised concerns regarding the actual outcomes of higher education more than many previous presidents; and, the impact of his administration's increase on reporting requirements persists even after he left office.

There also seems to be a strong movement of mistrust toward higher education regarding the way colleges operate. While running for office, then candidate Trump spoke about forcing colleges to reduce tuition rates. He stated that "If the federal government is going to subsidize student loans, it has a right to expect that colleges work hard to control costs and invest their resources in their students. If colleges refuse to take this responsibility seriously, they will be held accountable."[9] He also encouraged colleges to eliminate the 'tremendous bloat' in administration on each campus. These are not the only challenges that, now President Trump appears to have brought to higher education. His stance on immigration is dramatically affecting international enrollments at colleges and universities all across the country. Meanwhile, international student enrollments in Australia and Canada are on the rise. Even though the international student market is strong, President Trump's policies toward immigration and international students will likely have a dramatic negative effect on college budgets now and in the future. Additionally, President Trump has berated colleges as liberal think tanks intolerant of conservative ideas and has supported withholding federal funds from institutions that he believes do not allow conservative voices to be heard.

President Trump is not the only conservative to attack higher education. The Heartland Institute, a conservative think tank, published five policy recommendations for higher education. They are: 1) Eliminate the U.S. Department of Education; 2) Withdraw the federal government's endorsement of Common Core State Standards; 3) Restore the Opportunity Scholarship Program and Education Savings Accounts; 4) End Obama's war on for-profit higher education; and 5) Reduce federal subsidies to higher education including reducing scholarships and student loans.[10] Those in higher education are concerned that these recommendations, if followed, would reduce the accessibility to higher education for the poor and lower middle class.

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[9] Jaschik, Scott. "Trump victory will be a jolt for higher education". Inside Higher Ed. November 9, 2016.

[10] Best, Joseph. The Heartland Institute. November 21, 2016.

As mentioned above, the view that higher education costs too much and is not worth the investment is on the rise. In a recent study released by the Public Agenda, 42% of respondents replied 'yes' to the question "Is college necessary?". That percentage is down from 55% in 2009. Additionally, 46% of those surveyed question the value of college given the loan debt that may occur with students and the perceived limited employment opportunities.[11]

While observing the mood on Capital Hill, the American Association of Community Colleges (AACC) issued a paper that does not paint a rosy picture for community colleges in the current political climate. The AACC expected that the federal budget would significantly reduce spending on higher education (and other social programs) in favor of spending on the military. In a 2016 report, they predicted that the Higher Education Reauthorization Act would include more challenges for higher education including some "risk sharing" for colleges regarding student loans and financial aid, elimination of in-school loan interest subsidies and alterations or elimination of student loan forgiveness programs. All of these changes could limit the accessibility of higher education for those who need the most financial assistance.[12]

As the AACC feared, in mid-December of 2017, the Republicans in the U.S. House of Representatives introduced a bill to reauthorize the Higher Education Act. This bill, like others created during this period of political polarization, had no input from Democrats and has leaders in higher education scrambling to figure out everything that is included in the 542 page document. What educators quickly discovered was a drastic change in policy tone and a new emphasis on how colleges would be given greater responsibility for student graduation rates and student loan repayment rates that would include fiscal penalties on already stressed institutions who do not meet the mandated targets.[13]

All of this policy change is another manifestation of the political divide currently affecting the United States government as well as the population at-large; and, given such a divisive political culture, creating a reasonable compromise seems unlikely. In a 2014 study by the Pew Research Center, they reported that the divide between Democrats and Republicans is growing and is likely to continue to grow. Their prediction is evidenced by the increase in ideological consistency - sharing more uniformly liberal or conservative ideals. The study concluded that the "typical" Republican is now more conservative than 94% of Democrats, while the "typical" Democrat is more liberal than 92% of Republicans. Additionally, each party has a growing unfavorable view of the opposite party which leads to disagreements on nearly every issue. The study also found that those who hold consistently liberal or conservative views are much more likely to be engaged in their political party, while those with more

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[11] AACC. "2017 and Community Colleges."

[12] Ibid.

[13] Kreighbaum, Andrew. "Republican bill would reshape how colleges are held accountable." *Inside Higher Ed.* December 4, 2017.

moderate views are more likely to be apathetic. All of these factors make compromise nearly impossible. The growing political polarization will affect higher education policy for some time to come.[14]

These trends in attitude toward higher education could turn even more of the public away from the tradition that higher education is a public good that provides a means for the entire country to improve. Instead, the public may consider higher education an elitist rite-of-passage and private benefit unworthy of public support.

Population Trends and Student Demographics

Population trends and significant shifts in demographics are having a major impact on higher education. This impact will have an even greater affect on campuses in the future as colleges and universities compete for enrollments among a shrinking and shifting potential pool of student candidates. The competition among higher education institutions is leading to more scholarships at nearly every institution, and tuition discounting at private institutions, which will place additional stress on many college budgets across the country.

Study after study suggests that the student population for higher education will face a much slower growth rate and will shift from a majority White student population to a much more diverse student body. In 2014, the National Center for Education Statistics concluded that enrollment in higher education will increase by 14% between 2011 and 2022. However, this increase is much slower than the increase from 2007 - 2011 which was 45%. Further, the Center suggests that the student body will be different than colleges have seen before. The 18 - 24 year old population will increase by only 9% while the 25 - 34 year olds and the 35+ student population will increase by 20% and 26% respectively.[15] Such a significant change in student ages will be difficult for those colleges and universities that have relied heavily on the traditional, full-time, live-on-campus student population. However, those colleges who have focused on a part-time population will likely see increases in enrollments.

The National Center also predicts a change in the student body according to race distribution. The student population of Whites and Asians will increase by 7%, while the Black student population will increase by 26% and the Hispanic population by 27%.[16] Although colleges and universities have tried for decades to increase the diversity of their student bodies, the shifting demographics of the United States will drive that transition at a much

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[14] Wong, Jacqueline. "What has the United States become so divided politically and socially?". Pew Research Center. June 12, 2014.

[15] Hassar, William J. & Bailey, Tabitha M. "Projections of Education Statistics to 2022" 41st edition. National Center for Education Statistics, US Dept. of Education. February 2014.

[16] Ibid.

faster rate. The challenge will be if college campuses are truly ready. Black and Hispanic populations have historically attended college in fewer numbers compared to their White counterparts. Those who have attended have more likely been first-generation college students and have often arrived on campus with greater support needs.

In his article "College of Tomorrow: The Changing Demographics of the Student Body", Joseph Willams states that future students are less likely to be White or male. They are more likely to be Hispanic or Black and may be the first person in their family to attend college. He suggests that colleges will need to rethink admissions requirements and processes, boost financial aid packages and improve remediation programs on their campuses if they want to attract these students and support their successful completion of a college degree. He points out that currently only 34% of the Black population attends college; and of that population, only 42% attain a degree. Williams believes that political pressure and market demands will push colleges to improve those percentages.[17]

While for several years Hispanics were considered to be the fastest growing population in the United States, recent demographics cited by the Pew Research Center report that the growth in the Hispanic population has leveled off and remained flat between 2016 and 2017 reaching a total U.S. population of 58.6 million. In reality, the Asian population has had the fastest growth rate, increasing by 3% in 2017, while Hispanics experienced a 2% growth rate, Blacks had a .09% growth rate and the White population actually decreased by .1%.[18]

According to another Pew Research Center report, the Asian population grew by 72% between 2000 and 2015 (from 11.9 million to 20.4 million). In fact, immigration of Asians has accounted for one-quarter of all immigrants since 1965. The Center projects that Asians, will be the largest immigrant group by 2055 comprising 38% with Hispanics in second place comprising 31%. If this trend in Asian immigration continues, [which is uncertain given current immigration policies] it may have a more positive affect on higher education as Asian families have tended to value education more than other populations. In the U.S., of Asians 25 and older, 51% hold a bachelor's degree compared with just 30% of all Americans.[19] Colleges will try to recruit more of this population to their campuses in the future.

Another shift in student population reflects the growing Muslim population in the United States. Muslims are the fastest growing population in the world and are currently the second largest religion (24% of world population) behind Christianity. There are currently 3.35 million

[17] Williams, Joseph P. "College of Tomorrow: The Changing Demographics of the Student Body". *US News and World Report*. Sept. 22, 2014.

[18] Krogstad, Jens Manuel. "U.S. Hispanic population growth has leveled off". Pew Research Center. August 3, 2017.

[19] Lopez, Gustavo, Ruiz, Neil G., & Patten Eileen. "Key facts about Asian Americans, a diverse and growing population." Pew Research Center. September 8, 2017.

Muslims in the U.S.; and, it is estimated that by 2050, Muslims will make-up 2.1% of the U.S. population, surpassing those of the Jewish faith.[20] Colleges may need to rethink their Christian dominated calendars in order to accommodate a growing religiously diverse student population.

Funding Trends

Public budgets are often a good indicator of trends in public policy since cultural mores and priorities are reflected in public budgets at all levels of government. Funding for higher education is a complex mixture of state, federal and, in some cases, local support. It is a blend of direct aid to colleges (particularly public colleges) and tuition assistance to students no matter where they choose to attend higher education (public, private not-for-profit, profit generating colleges). When looking at funding for higher education, particularly public colleges and universities, it is clear that public funding of these institutions is becoming less of a political and cultural priority all across the country.

Some of this loss of priority in public funding stems from the debate as to whether public higher education is a public good or a private benefit, as discussed above. However, in order to elaborate here, the question to explore is "Does the public gain from the investment in colleges, or, is the derived benefit only enhancing the individual?" In an attempt to address this very question and guide public spending, the U.S. Government Accountability Office filed a report entitled "Higher Education: State Funding Trends and Policies on Affordability" in December 2014. In the report it stated that "*Higher education provides important private and public benefits and multiple parties are involved in financing higher education costs. In terms of private benefit, students may seek a postsecondary degree as a key to a better economic future. In addition to providing such private benefits, higher education has also been crucial to the development of the nation's cultural, social, and economic capital. In particular, higher education helps maintain the nation's competitive advantage in a global economy*….."[21]
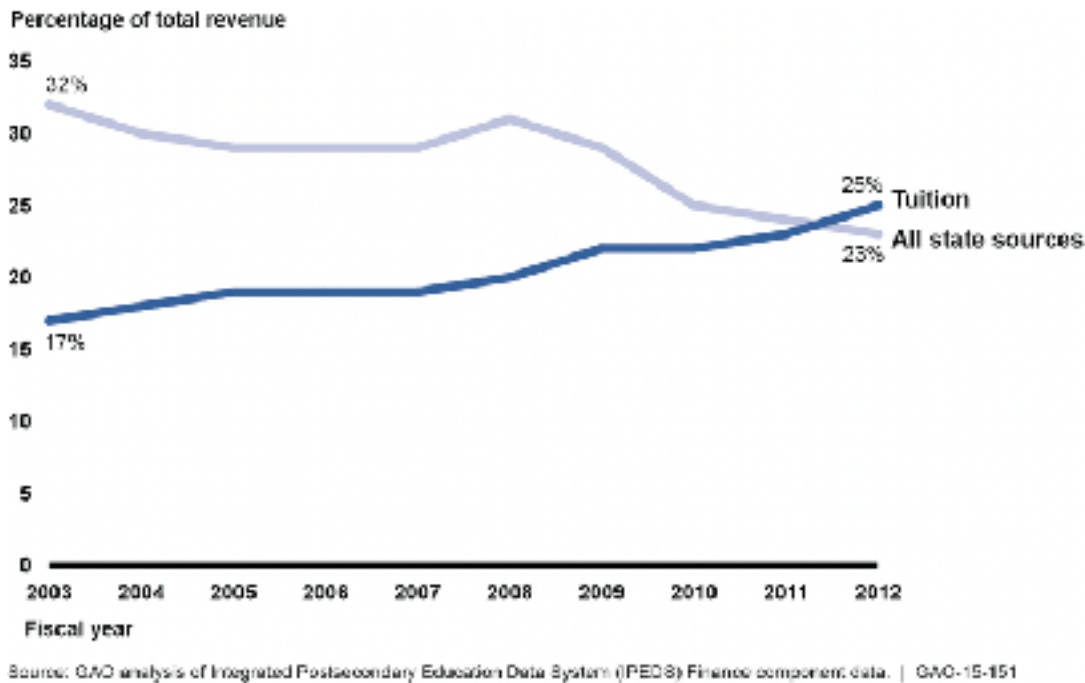
While the federal government spent between $150 and $160 billion on higher education in 2017, several authors have cited the reduction of public dollars (mostly state dollars) to support higher education. The Great Recession of 2008 was a difficult time for the country and while enrollment in many colleges soared (especially at community colleges), state spending on higher education was cut drastically. Historically, colleges would have seen a rapid restoration of funding as the economy improved. However, a recovery of funding from

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[20] Lipka, Michael. "Muslims and Islam: key findings in the U.S. and around the world". Pew Research Center. August 9, 2017.

[21] US Government Accountability Office. Higher Education: State Funding Trends and Policies on Affordability. December, 2014.

the 2008 cuts has not returned for higher education. More than 95% of states are spending less on public higher education today than before the 2008 recession.[22]

Percentage of total revenue

Source: GAO analysis of Integrated Postsecondary Education Data System (IPEDS) Finance component data. | GAO-15-151

While some states have restored a percentage of the previous funding to higher education, others have suffered from even more drastic cuts. In 2017, Missouri Governor Eric Greitens reduced state funding to higher education by $68 million due to state revenue short-falls.[23] Missouri is not the only state that has faced revenue challenges. At least 24 other states have experienced budget gaps in 2017 and in those states, like Iowa, New Mexico and others, higher education faced reductions in their state support.

In fact, today, many states spend more money on jails and prisons than on higher education. Christopher Ingraham writes that "State spending on colleges and universities has remained roughly flat, in inflation-adjusted dollars, since 1990. But spending on prisons has nearly doubled. There are now 18 states where taxpayers spend more on jails and prisons than they do on colleges and universities"; they include: Washington, Oregon, California,

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[22] Camera, Lauren. "State Are Slaking on Higher Ed. Spending". *US News and World Report*. January 7, 2016.

[23] Rosenbaum, Jason. "As State Budget Revenues Fall Short, Higher Education Faces A Squeeze". *National Public Radio*. March 3, 2017.

Nevada, Pennsylvania, Vermont, Colorado, Louisiana, Florida, Michigan, New York, New Jersey, Virginia, Maryland, Delaware, Rhode Island and New Hampshire.[24]

Some states are slowly working to restore funding; however, many states remain below pre-recession support for higher education (when adjusted for inflation). While not an exhaustive list, the following represents state spending in 2015 compared to spending before 2008: Arizona -55.6%, Illinois -54%, New York -6.4%, Montana +1.8%, Wisconsin +3.3%, Wyoming +21% and North Dakota +46%.[25]

During this same period, it is no surprise that tuition at public colleges and universities rose dramatically. Between 2008 and 2016 tuition increased all across the country. As one might expect, the states that have seen large cuts in public support have seen greater increases in tuition. As examples, the following list provides an illustration of tuition increases across the U.S.: Arizona +87.8%, Louisiana +79.8%, California +63.8%, New York +31.7% and Montana +4.8%.[26] The challenge with increasing tuition is not only the burden that it places on students in need, and the increased student debt that can result from it; but, it also deters many students from even considering higher education - particularly students of color and students with lower family incomes.

The lack of fiscal support for higher education will likely reduce the overall number of colleges and universities in the near future. Jillian Berman cites that in the ten years leading up to 2013, on average, five colleges closed per year. This trend is likely to continue and potently increase. Similarly, a 2012 Bain and Company report suggested that nearly 1/3 of all colleges in the United States are on a very unstable fiscal pathway and that smaller, private colleges are in true financial jeopardy.[27]

Another phenomenon in the funding of higher education is the trend toward performance-based funding. More than half of the states in the U.S. have adopted some form of performance-based funding for higher education. This is a systemic change in how colleges, particularly public colleges, are funded by states and the trend is growing. Despite a lack of evidence that performance-based funding has improved outcomes in higher

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[24] Ingraham, Christopher. "The states that spend more money on prisoners than college students". *The Washington Post*. July 7, 2016.

[25] Mitchell, Michael; Leachman, Michael & Masterson, Kathleen. "Funding Down, Tuition Up: State Cuts to Higher Education Threaten Quality and Affordability at Public Colleges." Center on Budget and Policy Priorities. Updated August 15, 2016.

[26] Mitchell, Michael; Leachman, Michael & Masterson, Kathleen. "Funding Down, Tuition Up: State Cuts to Higher Education Threaten Quality and Affordability at Public Colleges." Center on Budget and Policy Priorities. Updated August 15, 2016..

[27] Berman, Jillian. "Why more US colleges will go under in the next few years." markewatch.com March 28, 2015.

education, the political attractiveness of this model is causing its spread across the country. In fact, California, the least-likely state to adopt performance-based funding, has adopted such a funding formula for its 114 community colleges.

California's performance-based funding structure will take 40% of base state aid for community colleges and convert those dollars from enrollment driven to performance driven. Colleges will attain points for various metrics that will drive how much funding they will receive. These metrics include 20% of the funds for: 1) number of degrees or certificates granted; 2) those degrees completed within three years; 3) associate degrees earned for transfer; 4) those graduates who are earning a "living wage" within one year of graduation; 5) completion of transfer-level math and English within the first year of attendance; and, 6) and completion of nine credits of career and technical courses. The additional 20% will be earned through points assigned to the number of economically disadvantaged students served through various measures. In an attempt to help with this shift to performance-based funding in California included: 1) a hold-harmless clause for three years to help colleges make the transition; 2) $50 million to hire full-time faculty; and, 3) $50 million for part-time faculty to increase office hours for community colleges.[28]

All of these funding challenges will change the landscape of colleges and universities across the United States. From increasing tuitions to mergers to closures, colleges will need to change their business models to survive in the future. If higher education truly is a public good, as well as a private benefit, these reductions in funding may affect the country's ability to compete in the world economy.

Technology and Learning Spaces

When those in higher education think about technology and learning spaces they tend to think in terms of projection systems, technical lab equipment, computers, etc. that are housed in classrooms and adjacent student labs. Higher education has worked hard, even in times of shrinking budgets, to keep up with changing technologies in order to prepare students to function in a high-technology workplace and society. However, the issue of technology, as it relates to the delivery of higher education, will increasingly affect how colleges plan for the future. The rapid growth and frequent introduction of new technologies create student expectations for colleges to be on the forefront of technology innovation, an expensive expectation to meet.

Authors have been making predictions about technology and its affect on education for decades with mixed results. There were those who thought that television would change

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[28] Fain, Paul. "Calif. finalizes performance funding formula for its community colleges." *Inside Higher Ed.* June 12, 2018.

education in such a way that students would be at home viewing educational programming to gain a degree. Others predicted that distance learning programs would lead to the elimination of the college campus. Neither of those predictions came to fruition. However, they were correct in that technology has influenced much of what colleges offer, how they offer it and what students expect. Since it appears that advancements in technology will continue at a rapid pace, some contemporary authors have identified several technologies to watch for their impact on education.

In a 2013 article, Davide Savenije cites 12 technology trends that higher education needs to watch. They are: 1) the death of the personal computer - in favor of other more portable devices; 2) the proliferation of mobile devices; 3) the rise of social networks; 4) the next generation of networks (increase need for bandwidth); 5) the privatization of the cloud (personal clouds); 6) the valuation of X-AS-A service; 7) the promise of Big Data; 8) the implementation of the "flipped classroom"; 9) the need for interactive learning spaces not classrooms in rows; 10) the legitimization of on-line learning; 11) the integration of the college campus with the local community; and 12) the advent of Urban Operating Systems.[29] Many of these technologies are already having an impact on higher education.

Similarly, in an article from The Community College Journal in 2014, Bob Violino offers advice on some new technologies that colleges will want to watch and plan to use in the near future - because students will expect it. He suggests that technology in the classroom will not be an "add on"; rather, it will need to be fully integrated into the learning experience. Students are used to getting everything provided through technology from talking to their friends, to ordering products, to gaining information about a topic of interest. Students look for mobile apps to help them with everything about attending college from registering, to paying, to what's happening on campus, and to the learning process itself. Their mobile devices - and soon to be wearable devices - are how they interact with the world. Colleges will need to adapt to this new mode of interaction. Students are also beginning to look for 3D printing applications on campus to create products and devices that they would like to use. And lastly, colleges will need to employ Customer Relations Management (CRM) software to manage the numerous interactions that they will need to have with students in order to compete in a shrinking college student population.[30]

As colleges better integrate technology into the learning experience, faculty will need to better understand the students with whom they are working. This will be discussed in more detail below; however, there are some characteristics that should be noted here. Students are accustomed to technology in every part of their lives and, as such, are also very good at

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[29] Savenije, Davide. "12 tech trends higher education cannot afford to ignore". educationdive.com. July 31, 2013.

[30] Violino, Bob. "The Future Is Now." Community College Journal. Aug./Sept. 2014.

multitasking. They have been watching programming, texting friends, looking up information and doing homework all at the same time for their entire lives. While learning to multitask has its benefits, it has also led students to have very short attention spans and some difficulty in focusing on details. Their ability to multitask and utter dependence on technology compels higher education to consider how it interacts with students in a learning environment.

Today's students question the usefulness of classroom lectures because they believe that everything that they need to know can be found on-line in a very short period of time. Therefore, in order to "prove their worth" faculty will need to work with students on how to use technology to find data and, more importantly, analyze that data in order to turn it into useful information. This will require colleges to place more resources in instructional designers that can assist faculty with preparing their learning environments.[31]

There is a growing trend to change learning spaces as well. With a more integrated use of technology and a better understanding of how students learn, colleges have modified some spaces to accommodate the merging of learning technologies with the classroom. For some, desks in rows are gone. They have been replaced with furniture that is easily moveable to create a flexible room that can accommodate team learning, presentations, group projects and discussions. These rooms are heavily wired (and wireless) and may be larger than traditional classrooms with different types of learning environments within the space. There is not a front or back of the room; rather, the faculty member moves from place to place to work with students or to provide individual instruction.

Libraries are becoming true hubs for learning; and, they are taking on a more primary role in learning than in the past. As colleges and universities explore competency-based learning, libraries are creating spaces for individual learning as well as group learning. Space may include "maker space" where there are supplies and materials to take what is being learned combined with one's own creativity to develop a model, diorama, piece of art or other representation of students' knowledge. In fact, the current model for libraries continues to evolve and explore opportunities to support students by providing group work space, social spaces, spaces to relax, individual learning spaces, research assistance, lab supplements and serving as technology centers where students can use technology as well as get assistance with technology.[32]

Because the issue of technology will have such a profound impact on colleges, EDUCAUSE dedicated its entire July/August 2017 edition to The Next Generation of Digital Learning Environments (NGDLE). While many articles within the magazine discussed how educational institutions need to think about the future and technology, one article "The

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[31] Tugend, Alina. "Educators Discuss the Future of Higher Education." *The New York Times*. June 22, 2016.

[32] Reed, Peter. "Technology and the contemporary library." *Insights* - 28(2). July, 2015.

N2GDLE Vision: The Next "Next" Generation Digital Learning Environment" discusses the technology that will be the most impactful. The authors' belief in this impact is represented by a statement early in the article that suggests a new structure for education and technology: "We believe that learning technology is maturing to the stage that it can be an 'exoskeleton' for the mind. Higher education is on the cusp of a tectonic shift that will see human learning and intellectual capacity substantially augmented by technology."[33]

When the authors discussed an "exoskeleton for the mind", they were referring to leveraging "…technology to enable more effective interrogation of facts, concepts, and ideas, ultimately instilling habits of the mind including meta-skills or attributes like curiosity, open-mindedness, intellectual courage, thoroughness, and humility. Technology, properly designed and implemented, can indeed function as a set of tools and processes that augment human learning and intellectual capability."[34] Thus, if the technology and instructional design are used to their full capacity, technology can act as an interactive tutor for students exploring subject matter. Using such technology could allow students to study topics through equipment and computer programs on their own. Class time, then, would be dedicated to collaborative learning activities where a faculty member would design interactions and projects that *apply* the subject matter and better reinforce the concepts.

How might this be different from a "flipped classroom" in which students read the assignments in a textbook and are then ready to apply that reading to discussions and projects in class? Technology, if used to its fullest capacity, will be more interactive and allow students to explore *pathways* through subject matter. It will provide active learning lessons through video and networked metadata. It will adapt lessons and materials based on student responses to questions pulling in materials to bolster weak areas and move more quickly through topics the students easily grasp. It can also track the students' progress and provide feedback to the faculty member on how well a particular student is comprehending the subject matter and where a faculty member may need to intercede.[35]

Another technology that will affect higher education is the growth of virtual reality (VR). While some educational programs have used virtual reality of some type for years (flight simulators for example), it has been very expensive and required a great deal of specialized equipment. That paradigm is changing rapidly and many universities and companies are exploring VR in order to refine it and capitalize on its application.

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[33] Long, Phillip D. and Mott, John. "The N2GDLE Vision: The Next "Next" Generation of Digital Learning Environment." *EDUCAUSE*. July/August 2017.

[34] Ibid.

[35] Ludlow, Barbara L. "Virtual Reality: Emerging Applications and Future Directions." Rural Special Education Quarterly. Vol. 34 No. 3. 2015.

Virtual reality is a three-dimensional environment in which users, through sensory perception, can experience physical movement. It also provides some means of communication (text or speech) with the device and/or with other participants in the environment. There are varying types of VR. *True Virtual Reality* creates an artificial world in which people may interact and/or the user may experience events that feel "real". *Mixed Reality* combines the real world and an artificial world in some way that creates an experience for the user that enhances the actual experience (a simulator that combines real life equipment with virtual enhancements - the Spiderman ride at Universal Studios). Lastly, there is *Augmented Reality* that brings some elements of a virtual world as an add-on to the real world (Pokemon Go).[36]

Society has already experienced VR in various ways and forms including: Nintendo, Wii, and World of Warcraft. The challenge will be creating experiences that focus more on learning than on entertainment while providing a sense of realism that keeps the students' attention. That said, many technology professionals anticipate that in the near future VR will be used to teach academic concepts, social skills, communication skills, motor skills and daily living skills as well as replace some labs for student learning.[37] Companies like Apple, Microsoft, IBM, Oracle, Disney and others are exploring these technologies and their applications to education as well as entertainment. Some suggest that by 2025, a new digital age will exist in which the physical self will merge with a digital self and people will spend time and "live" in both the real and virtual worlds.

U.S. Employment Shortage

The United States has faced a worker shortage for the past several years. However, the shortage of a capable workforce has been exacerbated since the Great Recession and the recovery. Several authors have written about the worker shortage, its causes and how education has contributed to it. This shortage will affect higher education in its programming and recruiting for some time to come.

In 2013, the Congressional Budget Office estimated that if the U.S. was at full employment there would be 159.2 million people in the labor force. At that time, however, there were only 155.8 million; a difference of 3.4 million "missing workers".[38] That was a time when the unemployment rate was between 6.3% and 7.4% (down from a high of 10% in

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[36] Ludlow, Barbara L. "Virtual Reality: Emerging Applications and Future Directions." Rural Special Education Quarterly. Vol. 34 No. 3. 2015.

[37] Ibid.

[38] Shierholz, Heidi. "Is There Really a Shortage of Skilled Workers?" *Economic Policy Institute*. January 23, 2014.

October, 2009). Some estimate that the reduction in the unemployment rate was due largely to potential workers no longer looking for jobs rather than acquiring employment; no longer looking for employment removes potential workers from being counted as unemployed.[39] Why have they stopped looking? There are those who hypothesize that these discouraged potential workers do not possess the skills needed to participate in the jobs that are available and therefore see no future in continuing to look for employment.

As one dives deeper into the issue of the worker shortage, it becomes clear that there are several factors contributing to the shortage. The shortage is affecting an extremely diverse set of industries that are looking for skilled and unskilled labor. In January 2017, a survey conducted by the Associated General Contractors of America found that 73% of businesses are having a difficult time finding workers and that 55% believe that the worker shortage is of more concern to their business than federal regulations.[40] The concern is not only for the current state of the economy; there is greater concern for the future. A recent Georgetown University Study estimates that over the next several years, some 55 million jobs will become available due to jobs created (24 million) and retirements (31 million).[41] These data suggest that without a change in the available workforce, the U.S. economy will suffer.

Just as the industries affected by the worker shortage are diverse, so are the jobs that are available. They include skilled and unskilled labor; and range from truck drivers to engineers. While there is some overlap, different authors cite different types of labor shortages that are affecting businesses. For example, Terri Williams identifies the following as the top ten worker shortage areas: 1) skilled trades; 2) drivers; 3) teachers; 4) sales representatives; 5) administrative assistants; 6) management; 7) nurses; 8) technicians; 9) accounting and finance; and 10) engineers.[42] Similarly, in an article by Aimee Picchi, the author notes that there is a looming workforce shortage that will impact the U.S. economy. He cites that healthcare and skilled trades face the most dire shortages, followed by computer related employment. Picchi's article rates the top ten professions that are facing the largest risk of shortage in the next two decades. They are: 1) occupational therapy and physical therapy aids; 2) mathematical science; 3) health diagnosing and treatment practitioners; 4) plant systems operators; 5) rail transportation workers; 6) machinists; 7) water transportation workers; 8) financial specialists; 9) electricians; and 10) lawyers, judges and related legal

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[39] Ibid.

[40] Guarino, Arthur. "Labor Shortage in the United States becoming an increasingly dire issue." *Global Risk Insights*. September 1, 2017.

[41] Bidwell, Allie. "Report: Economy Will Face Shortage of 5 Million Workers in 2020." *US News and World Report*. July 8, 2013.

[42] Williams, Terri. "U.S. Talent Shortage: Tope Ten Jobs Employers Have Difficulty Filling." goodcall.com . June 15, 2015.

professionals.[43] Regardless of the actual list used, it is clear that a severe shortage of workers approaches; and the need is wide.

How did we get to such a place where so many jobs are unfilled while people are unemployed? Stephen Moore offers several reasons. First, he suggests that government discourages work by supporting over 100 million people with some type of government check which does not require any work. Second, he states that public schools have failed to teach basic working skills. There is no shop class and, he adds, colleges are worse, driving people into debt and providing no skills that address the need for workers. Third, he cites a bad attitude toward "blue collar' work which is deterring people from entering those skilled trades positions that are desperately needed. He also states that there is a cultural bias against young people working today, encouraging college attendance over a job, and that college is mostly an excuse for many to avoid going to work.[44]

While Mr. Moore identifies colleges as part of the problem, it has also been noted by several authors that many of the jobs that are vacant, require some level of college education. Estimates range from 55% to 75% of the jobs that need to be filled require higher education. Certainly not all of these jobs require a bachelors degree or higher; many require an associates degree or a certificate (usually offered by community colleges) as the entry-level qualification. There seems to be a conflict of realities that while many entry-level job qualifications have increased (now requiring some college), college graduations have remained stagnant over many years. It is also of note that for many of these jobs (skilled trades, engineering, technicians, and other fields) recruiting students into the academic programs that prepare students for these professions has been challenging for colleges. Nearly every college program in these fields has the capacity to serve more students.[45] Therefore there appears to be a gap between many of the jobs available and the students' interest in the education required to attain them.

Gen Z

Certainly an issue that will affect higher education is the composition of the potential student body. The demographics of the potential students were discussed earlier in this paper. However, it should also be recognized that different generations have certain general attributes and traits that they exhibit, often based on the experiences that external factors have had on them. While no description of a generation can accurately apply to each and

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[43] Picchi, Amiee. "Desperately seeking workers: The looming job crunch." CBSnews.com April 19, 2016.

[44] Moore, Stephen. "The Great Worker Shortage." *Forbes*. March 31, 2015.

[45] Bidwell, Allie. "Report: Economy Will Face Shortage of 5 Million Workers in 2020." *US News and World Report*. July 8, 2013.

every member of that generation, the following observations are broad trends within the current, and near future, student population. They are not necessarily behaviors of everyone within the generation; and, they are certainly not judgements of the generation.

The current college-age generation - commonly called GenZ - has been significantly influenced by their constant connection to electronic devices and social media. They have grown up in a United States where school shootings and mass shootings are a norm rather than a rare occurrence. They have witnessed an extremely polarized nation in which government cannot seem to function. And, they have spent a great deal of time with their parents, not only as a family, but with parents involved in many aspects of their social lives.

While there has always been a generation gap between faculty and students, this gap may be more challenging today than in the past. Not that college faculty are among the oldest workers in the U.S.. About 1/4 of the college faculty are Millennials with the balance being older. An aging faculty, coupled with the students' dependence on technology and the influence that technology has had on the behavior of GenZ, may make it harder for faculty to relate to this incoming generation than to previous generations.[46]

In her book, iGen: Why Today's Super Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy - and Completely Unprepared for Adulthood, Jean Twenge makes several observations and conclusions about this iGen (or GenZ interchangeably). Born between 1995 and 2010, this generation has always had a smart phone, iPad, Surface or similar device in their hand and has always used these devices to connect to the Internet. In fact, many of this generation will not own a computer (desktop or laptop) but will defer to more mobile devices.[47]

While her book talks about several aspects of the iGen/GenZ generation, for the purposes of this paper, the focus will be on aspects that could affect how they perform at, and interact with, colleges and universities; and, more importantly, those traits that colleges and universities need to understand in order to reach this student population.

This generation very much enjoys being a child and is in no hurry to grow up. They put off driving, working or taking responsibility until much later than previous generations. This is reinforced by parents who like having them as children and perform many daily tasks for them. These parents are not looking for their children to leave home too early. Therefore, the children are much more likely to live with their parents longer than previous generations.

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[46] Rickes, Persis C. "Generations in Flux: How GenZ Will Continue to Transform Higher Education Space." *Planning for Higher Education Journal.* V44. No. 4, July - Sept. 2016.

[47] Twenge, Jean M.iGen: Why Today's Super Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy - and Completely Unprepared for Adulthood. ATRIA Books. 2015

iGen members are used to getting money from their parents for things that they want and need. They are not used to earning that money. Therefore there is much less of an understanding of responsibility for one's own needs. They don't watch television or read books or magazines. They are not likely to pay attention to the news. They have not performed as well in school as Millennials, nor prior generations, and do not particularly like school. They believe that most of what is being taught in school is irrelevant and that they could find the information that they are "learning" on-line anytime, quickly. And, they have been on-line their entire lives so they think they know how to find it.

This generation is less likely to drink or binge drink than previous generations. However, they are more likely to use drugs, particularly marijuana. They are far more welcoming to those from diverse backgrounds and don't understand why others are concerned about people's skin color, religion, sexuality or other biases. They are not risk takers and safety is a huge concern for them. They are more likely to be insecure, lonely and depressed than previous generations and are at greater risk of suicide. They are more likely to feel like they can't do anything right and are enjoying life much less than previous generations. Because of this, they need regular and immediate positive re-enforcement.[48]

GenZ students are more difficult to reach than previous students. They don't watch television or read regular publications. Almost all of their information comes from the Internet through their phones or mobile devices. They are digital natives who are totally dependent on the technology they hold in their hands, are achievement oriented multitaskers and have been sheltered from life's consequences. They have diverse food requirements and are keenly interested in sustainability. They have communicated in texts (and therefore shortened statements) and often express themselves through emojis. They will have different types of space needs as they attend college. They will want to have gathering spaces to be with friends and work in groups along with private spaces to be alone and recharge themselves and their devices.[49] (More will be discussed about space needs later in this paper.)

Recruiting GenZ students will present challenges for higher education as well. This generation is very outcomes focused. They want to know the cost of college, how a college will prepare them for a career and the core academics that will be offered, and why. They are less reliant on their parents to decide where they will go to college; however, their parents will still be involved in these discussions and college visits. GenZ students are very interested in what their peers have to say about a college. So engaging other students to talk about their

[48]Twenge, Jean M.iGen: Why Today's Super Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy - and Completely Unprepared for Adulthood. ATRIA Books. 2015

[49]Rickes, Persis C. "Generations in Flux: How GenZ Will Continue to Transform Higher Education Space." *Planning for Higher Education Journal*. V44. No. 4, July - Sept. 2016.

experiences will be of great interest to these potential students. Colleges will need to reach these students on their mobile devices. Traditional marketing methods will not be effective.[50]

GenZ may be one of higher education's biggest challenges. Addressing the needs of this generation will require colleges to think about how they reach students, how they teach students, how they support students, how they engage students, how they address the mental health issues that these students may bring with them (depression and anxiety) and how these students use technology on a daily basis. Some of this will be discussed in the section on The Future of Colleges.

The Belief that College Is Not Worth It

Despite the many studies and plethora of data that demonstrate that a college education will increase one's earning potential over a lifetime, decrease the likelihood of unemployment, improve the individual health of a person and increase their involvement in their communities, there continues to be a movement across the country that believes that college is not worth it. A simple Internet search with the question "Is college worth the cost?" returns hundreds of articles with titles that would imply that college may not be worth the price.

A recent survey of students who graduated between 2005 and 2015 found that only 38% of graduates strongly agreed that college was worth it. For students that had debt, only about 33% strongly agreed.[51] It is true; college can be expensive as Kate Baumann found out. Ms. Baumann graduated from a private college in Upstate New York in 2010 with an undergraduate degree that cost over $200,000. Her first job paid $28,000.[52]

While college graduates (bachelors degree) can expect to earn about $1 million more than those with only a high school diploma over their lifetime, some authors place a good bit of emphasis on the effect of student debt and the lost wages while attending college to sway those who believe college is not worth it.[53] It is true that college debt cannot be ignored; the average student loan debt for an undergraduate degree in 2014 was $33,000 - twice what it was 20 years prior.[54] That translates into close to a $400 per month payment for college

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[50] O'Leary, Heather. "GenZ: No More Business as Usual." edventures.com . September 2004.

[51] Selings, Jeffery. "Is college worth the cost? May recent graduates don't think so." *The Washington Post*. September 30, 2015.

[52] Metz, Brooke. "Is College Worth It? Goldman Sachs Says Not So Much." *USA Today*. December 10, 2015.

[53] Bond, Casey. "Why College Isn't Worth the Money." forbes.com September 4, 2015.

[54] Ibid.

graduates for ten years.[55] Because of this debt, some college graduates in their 30's cannot acquire a mortgage for a home, 40% postpone contributing to retirement accounts and 40% delay car purchases.[56]

However, other authors contend that only looking at the cost/debt of college may not tell the entire story. In fact, some have suggested that the United States doesn't have a student debt problem; it has a student choice problem. That is, students who may be underprepared for college are attending high-cost colleges, not completing a degree, or not completing a degree on-time. While college is still worth it for the average student, for those likely to drop out, attending college may cause more harm than good.[57] Others content that students elect to attend colleges that their families cannot afford, significantly affecting their debt upon graduation.

For those who believe that college is a guarantee to a better life or that graduation will assure that they will receive a high paying job, Alan Benson (Assistant Professor at the University of Minnesota) attempts to dispel that myth "A college degree is more of a stepping stone, one ingredient to consider how you're cooking up your career….It's not always the best investment for everyone."[58] College is still worth it for those who graduate and do so on-time. Those who take longer to graduate incur more debt, sometimes as much as two years more before graduating, significantly increasing the cost of their degree.[59]

Another factor in the belief that college may not be worth it, concerns the choices that some students and their families make regarding where to attend college. Students have many options for higher education: community colleges, public colleges and universities, private not-for-profit colleges, major research universities, Ivy League colleges, private for-profit institutions and others. However, there is an allure of private not-for-profit institutions that seems to capture many students through a belief that a "good" education means an "expensive" education.[60] The higher the cost, the better the education, the better the job prospects.

That belief is not founded in fact. For most employers, where potential employees attended college is not of concern. A recent Gallup poll conducted on behalf of the Lumina

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[55]Selings, Jeffery. "Is college worth the cost? May recent graduates don't think so." *The Washington Post*. September 30, 2015.

[56]Bond, Casey. "Why College Isn't Worth the Money." forbes.com September 4, 2015.

[57] Paquette, Danielle. "Why college isn't always worth it." *The Washington Post*. January 30, 2015.

[58] Paquette, Danielle. "Why college isn't always worth it." *The Washington Post*. January 30, 2015. .

[59] Ibid.

[60] Bond, Casey. "Why College Isn't Worth The Money." forbes.com September 4, 2015.

Foundation reported that only about 9% of employers considered where a student attended college when looking at applicants. They were more concerned with the knowledge that they gained and whether they possessed an understanding of their industry. Conversely, 30% of the U.S. adult population believe that where you attended college is important to employers.[61] These data suggest that the United States could address at least some of the student debt problem with more informed choices of higher education institutions that meet students' needs and their family's financial where-with-all.

How Students Learn

For decades education researchers have studied how students learn. (Whether practitioners paid attention, were provided the tools needed, had the resources required or were trained in new techniques may be another discussion.) Education professionals have known for some time that students do better when they apply what they are learning rather than learning merely through reading and/or lecture modalities. While this applied focus of education has demonstrated results for years, Millennials - and now GenZ students - are so focused on applied learning that other methods may be rendered largely ineffective.

GenZ students like to learn new things. However, they like to learn as a team where they can interact with others, rather than listening to a lecture. They have been on-line their whole lives, so using tools that provide them access to information (smartphones, tablets, etc.) is expected; they have used Google to look up everything so trying to keep it from them during class will likely fail.[62] Professor Redish (University of Maryland) supports the use of technology over lecture. He believes that lecturing is a waste of time. "With modern technology, if all there is, is lectures, we don't need faculty to do it. Get them to do it once, put it on the Web and fire the faculty."[63]

Emily Hanford writes about the uselessness of a lecture in a college class. She states that it is impossible for students to listen, take in and process all of the information that is typically presented in a college lecture. Most of the students who do well by listening to a lecture, probably don't need the faculty member as part of their education anyway. They could read the textbook and gain the knowledge necessary to accomplish the outcomes. For

[61]Bond, Casey. "Why College Isn't Worth The Money." forbes.com September 4, 2015.

[62] Rickes, Persis C. "Generations in Flux: How GenZ Will Continue to Transform Higher Education Space." Planning for Higher Education Journal. V44 N4. July - Sept. 2016.

[63]Hanford, Emily. "Don't Lecture Me: Rethinking How College Students Learn." Mindshift. Feb. 20, 2012.

most others, their short-term memory is too limited and the information presented all at once in a lecture format is just not meaningful.[64]

Instead of lectures, students like engaged learning. Engaged learning resembles problem solving in the real world in which teams work together on a problem and use whatever resources they can access to solve the problem. This type of learning can include team projects, capstone projects, portfolios, research and service learning opportunities. Service learning can also work to build relationships and make students feel like a part of the larger community; which is an important factor for GenZ students.[65]

The idea that students learn better with active learning techniques rather than lecture is not new. There have been many studies validating that such approaches improve learning. Yet, a recent study of classes in Science, Technology, Engineering and Mathematics on college campuses demonstrates that lecture remains the dominate style of teaching. Of over 2,000 classes observed by the authors of the study, 55% were conventional lecture with another 27% using minor interactivity methods (clickers). Only 18% of the classes were truly taught in an interactive style.[66] The study cited that while many faculty understand that active learning is more effective, they lack confidence in their ability to utilize these techniques. Additionally, some faculty believe that their classes are too large for active learning techniques. It is clear that faculty professional development is needed regarding active learning on college campuses.[67]

Some faculty have found their confidence with active learning. Eric Mazar, Professor of Physics at Harvard, discovered the power of collaborative learning in his classes. He tells of a day when he spent a great deal of class time slowly lecturing on a difficult topic in order to explain all of the various details. No one asked questions. When he tested the students on the material, 1/2 of the class failed. So he put the students who failed with the students who understood the material together to discuss it, "And something happened in my classroom which I had never seen before. The entire classroom erupted in chaos. They were dying to explain it to one another and to talk about it."[68] He posited that the students who understood the concepts, still understood the struggle with grasping them, while he, the professor, could no longer understand why anyone wouldn't get it. The students were much more empathetic

[64] Hanford, Emily. "Don't Lecture Me: Rethinking How College Students Learn." Mindshift. Feb. 20, 2012.

[65] Skorton, David & Altshuler, Glenn. "Rules of Engagement: How Students Can Learn Well And Do Good." forbes.com May 28, 2013.

[66] Jaschik, Scott. "Study finds the lecture remains the dominate form of teaching in STEM". *Inside Higher Education.* April 2, 2018.

[67] Ibid.

[68]Hanford, Emily. "Don't Lecture Me: Rethinking How College Students Learn." Mindshift. Feb. 20, 2012.

in their discussions and explanations. That experience changed the way Professor Mazar taught college classes forever more.

First he had to recognize that this generation of students, even at Harvard, does not read textbooks. So he had to incentivize the reading. Now students read and are required to submit answers to questions about the reading through the Web before class. From these submissions, Mazar can tell where students struggled. He then begins the class together with a brief explanation of a concept that was confusing for them. After testing their understanding using multiple choice questions through mobile devices, he asks the students to discuss the concept and then tests them again. Then it's on to the next concept.[69]

As explored earlier, another means to engage students through active learning is on the horizon - virtual reality. GenZ students have been on-line, playing video games for nearly their entire lives. They have created and participated in on-line "worlds" that can seem very realistic. Unlike the expensive equipment that has been available for decades and used to simulate environments, by 2026, there will be several user headsets that are advanced enough to make users feel like they are truly in another world - Virtual Reality (VR) - yet inexpensive enough to be available to colleges and universities en mass. While VR won't replace labs or classroom interactions with students and faculty, they will add another tool to a faculty's ability to bring a topic to life. The challenge will be making these VR experiences educational and not strictly entertaining. There will be other challenges as well; for example, students will not likely be able to take notes while wearing a headset. That said, VR is coming.[70]

The Future of Colleges

Based on numerous publications, research and observations as a higher education professional one can make predictions as to the overall direction that colleges and universities are heading for the future. While there are certainly challenges to be faced by higher education; it will survive. However, change is coming. Change is often difficult on college campuses for numerous reasons. However, those colleges that address these challenges and look for truly innovative ways to address them, will thrive.

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[69]Hanford, Emily. "Don't Lecture Me: Rethinking How College Students Learn." Mindshift. Feb. 20, 2012.

[70] Matthews, David. "Virtual Reality: could it revolutionize higher education?" timeshighereducation.com June 2, 2016.

Death of the Lecture: More Technology

There will be less reliance on the lecture and more emphasis on technology in classrooms in order to address the learning styles of students. Technology is pervasive in the lives of U.S. citizens. Indeed, the iGen, or GenZ, students are so dependent upon technology that it is a major part of their lives. Successful colleges and universities will have figured out how to use technology as a significant part of the delivery of education, not just as an overlay to the lecture. That is not to say all students will be at a distance, logging onto classes that they never physically attend. However, students today are wondering why they would sit in class and listen to a lecture when they can look up the information in minutes on their phones. They will demand active learning strategies that use the technology that they have in their hands, on the college campus.

Consider a class where the faculty member is a learning consultant and students are working in groups. They are working to solve problems proposed by the faculty member who may offer short "bursts" of lecture to assist the class. Students have researched materials and potential solutions and are experimenting with those solutions in the classroom. In his article "It's the End of College As We Know It", Kevin Carey predicts that classes in the future will be an experience that is a combination of an intermingling of technology with a traditional face-to-face environment. He argues that people will still want to attend college and learn with other people; however, that learning process must change if colleges will meet the needs of students.[71]

College classrooms will no longer be in rows facing the front of the room for the faculty member to profess about the subject matter of the day. Rather they will be set up with flexible furniture so that students can group and regroup depending on the problem for the class. Rooms will be equipment abundant, with several outlets and blanketed with wireless capacity for the numerous devices that students bring to class as tools to conduct research and solve problems. This approach will encourage students to apply knowledge, not merely recite it. It is this style of education in which students (and parents) will see value. They are seeing less and less value in the current lecture model of education. Richard Miller, President of Olin College of Engineering states that "Charging people lots of money to provide them with skills they could learn from an Internet video is probably not gonna be a viable long-term financial model. Knowledge is now a commodity. It's really inexpensive and easy to get. Who's gonna pay you for that?"[72]

Virtual reality (VR) will enter the college classroom in the near future and will grow in its usefulness and utilization as a learning tool. Broadly stated, there are two types of virtual

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[71] Carey, Kevin. "It's the End of College As We Know It." *US News and World Report.* April 30, 2015.

[72] Hullinger, Jessica. "This Is The Future Of College." FastCompany.com May 18, 2015.

reality. There is augmented reality, in which digital elements are brought into the real world - people are still aware of the real space around them. And there is true, virtual reality, which places the user inside a digital world with devices that fully immerse the user into an experience.[73]

Tech companies, like Microsoft, are very interested in supporting the use of VR in educational applications and initiatives. Currently in a simple form, VR can create mixed realities (augmented and virtual) using a smartphone, an application, and a pair of cardboard goggles that cost less than $10. Students are using these to play games and watch videos but they could easily be adapted to education.

Imagine guiding students in an art class in Wyoming through an exhibit in Paris. A biology student might travel through the human body. A history student might be placed inside the Continental Congress during the birth of the U.S. As the applications get easier to use, faculty will adopt them into their classrooms.[74] This will help keep the attention of the our students who have experienced digital games and used technology for their entire lives.

Responding to Student Demand

As the student market becomes even more competitive, colleges will respond to market shifts more rapidly. Whereas, in the past, colleges and universities did little to change their operations in order to meet student or local needs, that will change as the struggle for enrollment is more impactful. Already, some colleges are entering markets and changing systems to attract or retain more students.

For community colleges, there is a movement to enter into the four-year degree granting market. Currently about 90 community colleges across the country are offering close to 900 baccalaureate programs to students in 19 states. These bachelors degrees are often niche markets and usually focused on specific disciplines that need a workforce - often healthcare (nursing) and technology. However, some proponents of this movement cite that many students cannot leave their jobs and travel to a university. Therefore, community colleges that can offer bachelors degrees serve a market of students who cannot get to a four-year institution. Additionally, community colleges have historically served a much more diverse student population than four-year institutions. Allowing community colleges to offer bachelors degrees will result in more people of color or those from lower socio-economic

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[73] Evans, Adam. "Virtual Reality Can Enable Real Learning." *The Chronicle of Higher Education.* April 13, 2018.

[74] Evans, Adam. "Virtual Reality Can Enable Real Learning." *The Chronicle of Higher Education.* April 13, 2018.

backgrounds to attain a four-year degree, at a lower cost than universities.[75] This trend will grow all across the country.

Universities will offer fast-track degree programs. In order to respond to students who want to get a job and minimize their education debt, colleges and universities will offer programs that allow students to attain a degree more quickly. Purdue University has launched a successful "Degree in 3" program that allows students to attend in the summer, transfer in credits, carry a larger course load and graduate from college in three years. Some estimate that students will save over $20,000 in tuition alone and join the workforce sooner.[76]

Colleges will be smarter about their students. Colleges will use more data analytics to assure that students who enter their halls are successful and graduate on-time. Data analytics can help predict those students who will struggle in college and allow advisors to intervene early in the students' education to support their success. This may include requiring a summer bridge program, regular meetings with an advisor, enrollment in a first-year-experience program or other support systems. Colleges will use more and more data to proactively, and some say intrusively, support students.[77]

Closings and Mergers

The landscape of higher education will change over the next several years. There have been some closings and mergers of institutions, primarily small, private liberal arts colleges. Some predict the this trend will increase. Many of the colleges that have closed or merged with others were small (under 1,000 students) Roman Catholic institutions with small endowments; and, many of those were located in the middle of the Unite States with sparse populations.[78] Small private insitutiitions will likely continue to struggle over the next several years and more will close or seek ways to merge with larger institutions that share a similar mission.

Institutions in the public sector are much less likely to close or lose their identity. While it is true that some public higher education systems are looking to combine institutions where it makes sense, there is not likely to be the political will to see massive closures or multiple

[75] Povich, Elaine, S. "More Community Colleges Are Offering Bachelor's Degrees - And Four-Year Universities Aren't Happy About It." The PEW Charitable Trusts. April 26, 2018.

[76] Wyllie, Julian. "Students Want Faster Degrees. Colleges are Responding." *The Chronicle of Higher Education.* April 6, 2018.

[77] Fausset, Richard. "Data Drives Innovation In College's Reinvention." *The New York Times.* May 17, 2018.

[78] Seltzer, Rick. "Spate of recent college closures has some seeing long-predicted consolidation taking off." *Inside Higher Ed.* November 13, 2017.

mergers of public colleges. The former Chancellor of the State University of New York, Nancy Zimpher, attempted to assign a single president to oversee two campuses at the same time. In both instances (four campuses) the political backlash was so great that the initiative was abandoned and presidents were hired for each campus.

That said, public higher education will not be immune to mergers and changes. Various states are examining how they might merge and combine state college campuses. Georgia has combined some two and four-year institutions; Louisiana announced a merger of eight technical and community colleges; and, Wisconsin approved a plan to merge some of the 13 two-year colleges with its four-year state universities. In probably the most radical plan in the country, Connecticut recently announced a plan to create one state-wide community college from it's 12, currently independent, campuses. This plan will happen in two stages creating three regional community colleges by Fall 2019, and then one state-wide community college by 2023.[79]

Maine, too, is looking to restructure its higher education system. With a structural deficit of over $75 million in 2017 and no expectation that public funding will dramatically increase or that enrollment will rebound, Maine is working toward a "One University" concept that would better coordinate its campuses into a more unified system to serve the state's smaller and aging population. After cutting 51 faculty positions and 119 staff members in one-year, it became clear that the current model of independent campuses would be unsustainable in the future. The System leadership is working to consolidate administrative functions and, eventually, academic programs.[80]

Mergers are not the only option, particularly for public colleges. In his article "Thinking About a Merger? Read This First," Stephen Spinelli, Jr. offers advice for colleges that are considering mergers for their future. There are some obvious points in his discussion of the merger process including engaging the faculty early and the potential accreditation challenges. But he also offers some sound advice. First, if colleges are thinking about mergers, such an action should be approached from a position of strength - not desperation. How will the merger make both institutions stronger or create new opportunities for the students? He also states that mergers are not the only answer. Colleges should look for collaborations that may achieve economies of scale without a full merger.[81] This last option will be attractive to public institutions and more politically achievable.

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[79] Paterson, James. "Connecticut community colleges to merge in two-stages." educationdive.com. June 20, 2018.

[80] Gardner, Lee. "How Maine Became a Laboratory for the Future of Public Higher Education." *The Chronicle of Higher Education*. March 2, 2018.

[81] Spinelli, Stephen, Jr. "Thinking About a Merger? Read This First." *The Chronicle of Higher Education*. July 6, 2018.

As seen by the above examples, while small private colleges are in jeopardy, public sector college campuses are not likely to close. However, they will experience increased pressure to merge, control costs, collaborate and become more efficient. Public money to support these institutions will not return to levels experienced in the past. Even those who remain independent will also experience more pressure on tuition and fee increases which will add to their fiscal concerns. As resources continue to stress, these institutions will need to make difficult decisions about their missions and programs. Leaders of small public colleges should begin to think about mergers or collaborative functions that might make sense for their institutions. Taking the lead on this issue may prevent outside agencies or elected officials from developing plans that have unexpected negative impacts on state-run higher education.

Competency Based Education

Competency Based Education (CBE) will become more pervasive in higher education, particularly for the returning adult students. For the past several decades accrediting organizations and elected officials have pushed colleges and universities to focus on outcomes. Outcomes are what a student will be able to demonstrate or do at the conclusion of the course and program. Rather than focusing on the process of education - how many hours are in the course, how many courses are in the program, etc. - focusing on outcomes stresses the skills gained and how the student can apply them to real-world problems. That said, many of the systems of higher education - program approval, financial aid, etc. have not yet caught up with measuring outcomes rather than process. That will change.

Some institutions, Western Governors University and Southern New Hampshire University to name two, have been offering Competency Based Education in some form for the past few years. Using CBE, students demonstrate the outcomes of the course in order to receive the credit. Students may have learned the material on their own before attending college; they may have taken a course from an employer; or they may have learned the material in another way - like through the military. With CBE, students often pay a flat fee per semester and can move through a program of study at their own speed.

Many in higher education predict that CBE will become much more a part of the normal fabric of college offerings in the near future with a focus on skills not semesters.[82] With a focus on CBE, students may attend seminars, take on-line training modules, work with a faculty member as an independent study or learn the material through books and on-line content. In any case, the demonstration of skills will earn these students credentials. If higher education doesn't move toward CBE, at least as an option, for-profit organizations will capture that market and colleges will have a difficult time getting it back.

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[82] Hullinger, Jessica. "This Is The Future Of College." FastCompany.com May 18, 2015.

The challenge will be how will higher education be paid for such an approach? Financial aid programs at the federal level (and state levels) are not structured for this approach. Since some colleges are piloting CBE at their institutions, the federal government (a major funder of college education) will look for CBE programs at other institutions as a means of saving financial aid dollars and structure aid accordingly. It is likely that colleges will charge fees to challenge a course and/or provide proof that a student can demonstrate the outcomes of a course. That fee will be less than traditional tuition (and fees) which saves the student and governments (federal and state) money. Therefore, financial aid will offer a CBE option for students.

This movement will challenge the business model of colleges and universities. Some have argued that the higher education business model has been unsustainable for some time. It is highly likely that a blended business model of traditional students in classes and non-traditional students in a CBE program will be the future of successful institutions.

High School Partnerships

Colleges will develop more programs to attract high school students while they are still enrolled in secondary education. As noted earlier, the traditional college age student demographic is shrinking. This is forcing colleges and universities to explore new markets. These markets include non-traditional students - over 25, underserved populations, graduates already holding degrees (discussed below) and students who are still in high school. High school programs have grown over the past decade and are likely to continue to grow in the future. Given this growth, it is likely that community colleges across the country will construct high school buildings (or renovate under-utilized existing buildings) on their campuses to help serve this population.

College / High School partnerships are not new. However, there is an increasing emphasis on colleges having strong partnerships with high schools in order to address growing concerns about college enrollment, reduce the overall cost of attending college and provide a local workforce. These College / High School partnerships manifest in several formats including concurrent enrollment in the high school, early college programs on campus, Smart Scholars (started by the Gates Foundation) and Pathways in Technology Early College High School (PTECH). Each program has different goals, but they all recognize that many students in high school are capable of college-level work; and, that by giving them a head start in college while still in high school, students are much more likely to attend a college upon graduation and to complete a college program of study.

Concurrent enrollment is a program in which students often remain at the high school for their entire day. College faculty and high school teachers coordinate curriculum to assure that the coordinated course meets the rigor of a college class and those who complete the

course can demonstrate the same learning outcomes as students on the main campus. These courses are often taught by high school teachers, who meet college standards, provide both college and high school credit, and are offered to high school students at a reduced tuition or fee.

Early college programs are typically half-day or full-day programs in which high school students leave the high school and attend classes on a college campus. These students pay tuition (full or reduced rate depending on the state and college) and attend classes with other college students. Often the classes taken on the college campus will also be counted for high school credit back at the students' home school.

Smart Scholars is a program piloted by the Gates Foundation with high schools and colleges across the country. This program, targeted at students who were believed to be college capable but at-risk at their high school, give students an opportunity to combine high school and college from grade nine through twelve and earn college credits. Students typically participate in one or two concurrent enrollment classes in ninth grade along with high school classes. The number of college courses increases as the students advance in grade levels. During the 11th and 12th grade years, students spend more time on the college campus enrolled in college courses. Through this program students receive college credit, high school credit and often include targeted student support services throughout their high school / college experience.

Piloted in Brooklyn with the support of IBM, PTECH programs follow a similar model as Smart Scholars. However, PTECH is focused on career programs and the completion of an Associates Degree while simultaneously attending high school. Students have up to six years to complete the program which results in a free high school diploma and free Associates Degree that prepares students for work in the local economy. There is also significant involvement of the local employer base through internships, mentors, job shadowing and other programs that expose students to the world of work.[83]

Colleges and high schools will become even more creative with partnerships that bring high school students from a variety of backgrounds to college campuses. This will require colleges and high schools to think about the student support services needed, addressing issues around activities typically done with adult students (over 18) like overnight trips, housing, clubs, etc. and will likely lead to buildings dedicated to high school students on college campuses, particularly community college campuses. Students may spend part of their day in the high school facility and part of their day in the college buildings and the curriculum will be coordinated to provide the student a smooth transition between the two organizations.

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[83] Foroohar, Rena. "The School That Is Changing American Education." Time. February 13, 2014.

Focus on Institutional Strengths

For a decades, colleges and universities added programs and services to their portfolio in order to attract students, meet community needs or be a part of the latest trend. Due to the lack of resources, such additions to the college campus will be more difficult in the future. Rather, institutions of higher education will need to focus on what they do well and invest in those programs.

One can examine what happened in the business sector to see a similar parallel. The pendulum swung and at one time, diversification of business was the mantra. Businesses all across the country developed new lines of business, bought companies and created products that would attempt to capture a new market. The thought was to "not put all your eggs in one basket" in case the bottom dropped out.

When the economy weakened, the pendulum swung back and the trend became one of "returning to your core business" or "focusing on your brand identity." During this time, businesses sold off divisions, discontinued product lines and closed areas of the company with which consumers never really identified. The thought being to focus on your strengths and be the best in the market. This trend will influence a number of colleges and universities.

As it gets harder to attract students, colleges will highlight their strengths and invest in those areas to be the best in the market. Colleges that are known for engineering and technology will focus their resources in those areas and, perhaps, abandon other programs. Colleges that have a strength in theater and music, will place less emphasis on technology programs. As the student market shrinks, focusing on an institution's stronger programs and attracting the students interested in them will be key to the institution's success.

This trend to limit programs might be more difficult for community colleges as their missions are often broad and the students that they serve are generally more diverse and geographically bound to an area. That said, there is opportunity for community colleges to emphasize areas of strength and partner with near-by institutions to meet other needs. There will be added pressure for community colleges in close proximity to one another to not duplicate academic programs, particularly those that are expensive to operate. There is potential, and some have piloted programs, in which local students remain on their home community college campus and receive some core courses from another community college via distance learning. In the Hudson Valley area of New York State several community colleges - including Rockland, Orange, Sullivan and Ulster Community Colleges - worked together to offer Cyber Security, Emergency Management, Fire Protection Technology and Green Building Maintenance and Management programs in a collaborative manner that keeps students local and makes the programs more affordable. Other community colleges across the country will examine similar approaches.

Students Will Still Want to Go to College

For decades many researchers and futurists predicted that distance learning technology would render the college campus obsolete. Students, they theorized, would prefer to stay home, work and go to school over the Internet or via television (at that time). Yet, even with tremendous advancements in technology, this prediction has not materialized; nor will it.

There are a multitude of reasons why the college campus will continue to survive in the future. While returning adult students do well in distance learning courses, traditional students typically do not perform as well. They often lack the discipline required to log-on regularly, complete the assignments on time, or consistently participate in asynchronous discussions. Traditional students need the structure of attending class and labs with their fellow students led by a faculty member who is present. While iGen, or GenZ, students have been on-line their entire lives, they too, need the structure of a live classroom experience to be successful.

College is an ingrained right of passage in the U.S. culture. Parents from all walks of life expect their children to attend college. As the U.S. becomes a more diverse country and there is no longer a White majority, colleges will still be seen as a means to get ahead in life. However, colleges will need to explore programs that support this new student demographic (more on this below).

Attending college is more than classrooms and courses. For many students there is a social maturation that happens on a college campus that cannot be replaced with technology. One issue that has plagued distance learning students for decades is a feeling of isolation. Students, particularly traditional college age students, seem to thrive on the interaction with other students. They often come into contact with students from backgrounds different from their own and are exposed to new cultures on campus.

For some students college is the first experience where they are treated as an adult. They are required to make decisions (with guidance and support) about their education and future without the daily interaction with their parents. Anyone who works on a college campus can see how students "grow up" as they attend over the years. This will not be replaced with distance learning.

Finally, there is the fun of attending college. While some might discount the importance of the social interactions on college campuses, students experience these interactions with great vigor. They often make friends that will last a lifetime and, for many, connections that will assist them in their careers. These are all important aspects of college that go beyond the classroom.

Relationship with Graduates

As the traditional student market shrinks, colleges and universities will need to explore others while remaining true to their mission and strengths. Colleges will look to how they can attract their graduates to return to their campuses for further study. While these efforts will likely focus on Bachelor's and Master's degree graduates, community colleges may also consider such a market in designated programs.

The initiative for this market will be to focus on areas where the institution has its strengths and have graduates return for a weekend or even week-long programs that provide them with updates in their disciplines. These programs may or may not be tuition driven; and, will provide a certificate at their conclusion. For example, an engineering department might have graduates return to learn about a new method of design or a new software package being used in the industry. Healthcare related programs might have graduates return to learn a new technique in providing care or a new treatment for patients.

Such an approach will appeal to graduates because they have fond memories of their alma mater and the faculty members who taught them. They will likely enjoy returning to campus and reestablishing connections with both the institution and the faculty. They will see new labs and facilities as well as fellow graduates that they may know or who may help their careers. Many already feel a connection that can be nurtured through these programs.

There is another aspect of getting graduates to return to campus - fundraising. These graduates who return for short, effective topical updates in their discipline will appreciate the institution maintaining a relationship with them that is not just a phone call asking for money. It will, however, provide an opportunity to rekindle that relationship making financial giving a more likely outcome.

Addressing the Needs of Multicultural Students

Colleges will have more, and integrated, multicultural programs and support services. As stated above, the demographics of the United States are changing and as such, the demographics of college students and potential college students are changing as well. For some institutions - and a growing number - the incoming class is no longer majority White. The class may still have Whites as its largest group, but it will likely not be over 50% of the incoming class. Institutions that continue to focus on recruiting White suburban upper middle-class students will suffer. Those institutions that embrace the new demographic of students will fair much better.

Colleges will need to do more to understand and address the needs of a more diverse demographic of students for their programming, support services and marketing efforts. Such

efforts cannot be cursory; they will need to be embraced by the institution and become an authentic part of the fabric of the college culture if they are to be effective. These efforts cannot focus on *diversity*. Rather, they must focus on *inclusion* in order to make all feel welcome and involved on the campus.

Colleges will need to examine their academic programming. The curriculum must be inclusive. That is, the curriculum must include historical leaders from all backgrounds in the discipline. Faculty must be able to talk about topics of interest with their students. Courses in African American Culture, Asian Culture, LGBT studies, Studies of Religions, etc. will need to be a part of the curriculum for everyone to feel included and valued on the campus.

Colleges will need to consider how their extra-curricular programming addresses the inclusion of a variety of cultures across the campus. This approach must be more than having clubs that appeal to various races, cultures or sexual orientations. Rather, colleges will need to think about how they break down the barriers between and among these diverse groups in ways that open dialog, share ideas and experiences and develop a better understanding of each other to improve relations on campus and in the larger society.

Support services will be more critical in the future. As the student body on campus comes from a more diverse population, it is likely that more students will be first-generation college students. Colleges will need to have programs in place that help these students understand how to go to college and succeed. While they will have the entry-level support of their parents and families to attend college, many parents will not know how to support their children with this new experience. Colleges will need to have programs for parents - beyond the single-day college orientation - that teach parents what college is like and how they can help their children succeed and graduate. Colleges will need to have more regular communications with parents as their children attend college to help them feel informed and involved.

Support service providers will need to be much more aware of issues that have been faced by a variety of cultures in the United States. For many students college will be an educational experience unlike any that they have had in their home school district. Support services must be able to address those needs in ways that can attract students to them. For example, Black and Latino male students have the lowest graduation rates in higher education. These same students often do not seek academic help or support for a variety of cultural reasons. Student service professionals must create ways to meet these needs and proactively reach these students to gain their participation.

Advising will take on a new priority at colleges and universities. Advising positions will not be an add-on for faculty or positions that only help students pick their classes for the following semester. They will become highly professional positions (potentially with higher level credentials required) that are focused on the students' success and navigating college

as well as their lives through college completion. The University of Oklahoma has trained about 1/3 of their advisors to be "academic life coaches." These coaches go through six months of training and can assist students with financial concerns, issues of mental health, getting engaged in extracurricular activities and even issues from home. They strive to help students think deeply about what they want from college, how to get there and to take responsibility for making their own decisions.[84]

Colleges will need to establish multicultural centers in which all students feel welcome and represented. Additionally, colleges will need to partner with community organizations in order to provide a larger, more well-rounded, support service system for multicultural students. Colleges will develop relationships with organizations like On Point - a community organization that provides support services and advocacy for inner city Black students attending college - and Centro Civico - providing services for Hispanic students and families. These community organizations can supplement on-campus services and may be able to reach students that are hesitant to approach college support service offices for assistance.

Marketing to diverse populations will be different than marketing to a majority White potential student population. Colleges will need to go beyond the multicultural photo. They will need to address the values of a multicultural population in their marketing efforts by reaching not only the potential student, but the students' families as well. They will need to focus some marketing efforts on how students-of-color feel on campus and the support services on campus to help them succeed. Colleges will need to truly demonstrate that they are welcoming to all students.

Current, and troubling, race relations in the U.S., and on college campuses, will add to the challenge. Some of the national exposure of college campuses show White students hosting White supremacy rallies on campus; videos of White students singing racist songs in fraternities; recordings of White students in black face or participating in rituals that demonstrate a total disrespect for people of other cultures. Colleges and universities will have to work to prove that they are indeed open to everyone.

Fundraising

Public funding for higher education will continue to diminish and/or change in its nature. Funding to higher education never fully recovered from the 2008 recession, particularly for public sector higher education. It is likely that funding to these public sector colleges will never return to levels seen in the history of the Untied States. Demand for public money is great and as the country ages, wrestles with poverty, healthcare and social issues along with

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[84] Anft, Michael. "Student Advising Needs Have Changed. Advising Must Change, Too." *The Chronicle of Higher Education*. July 6, 2018.

increases in military spending, the competition for public dollars will leave higher education a lesser priority.

Private colleges have engaged in fundraising for their entire history. For some like Harvard, Princeton and others, this effort has amassed endowments valued in the billions of dollars. Public sector colleges have participated in fundraising, but not to the level of the private colleges. They will.

Raising funds for public sector colleges may prove to be more difficult as many potential donors believe that their tax dollars already support the campuses. However, these public colleges and universities will have to demonstrate the need for private dollars on their campuses. It is unlikely that donors will give funds to public insitutiitions in order to underwrite the day-to-day operations of the institution. However, they will provide funding for scholarships (which will be critical as colleges address the needs of a less affluent student population), pilot projects (like a new approach to student retention) and capital projects (like buildings and equipment).

Presidents have already expressed that more of their time is now devoted to fundraising for private contributions, and to interactions with elected officials for public dollars, to support their institutions than ever before. Some have stated that their focus on academics or daily operations has significantly been reduced due to demands on their time to secure funding. This trend will continue to increase. While private college presidents have always hosted dinners or cocktail parties in their homes or on campus targeted toward potential donors - public college presidents, particularly community college presidents, have not hosted these types of events. In order to address the growing need for funding, **all** college presidents will need to host such events in order to fundraise and friend-raise for their institutions.

Free Public College

Juxtaposed with the above statement that public funding for higher education has diminished, is the growth of "free tuition" or "free college" programs at public institutions (almost always community colleges) in a number of states. This movement has been controversial politically given the above discussion regarding college as a public good or private benefit and that debate will likely continue for some time to come. Regardless, the actual impact of these "free college" efforts on student success is yet unknown.

The following states offer some form of free tuition to certain populations within their states. New York, which has the only program that offers free tuition to certain populations at both the 2-year and 4-year level. New York made national headlines when it announced the Excelsior Program which is designed to assist the middle class with funding for their children to attend college as it has higher income-level restrictions (currently $110,000 per year

household income) than other sources of financial aid. This new program is intended to supplement New York's long history of a Tuition Assistance Program (TAP) that has helped lower-income families send their children to college.

Arkansas, California, Kentucky, Minnesota, Oregon, Rhode Island and Tennessee all have programs that provide free tuition to community colleges to some students. While each program has various constraints and conditions in order to be eligible for the funding, they are providing new dollars for those students who are entering community college.[85] The rise in efforts to provide free college tuition, primarily at community colleges, is a response to the business community's difficulty in finding employees, particularly technical employees, prepared to enter the workforce.

These programs are likely to grow, but at a slow pace and with more and more restrictions on them. They are not designed in support of a college education. They are designed in support of providing a workforce. It is likely that funding programs like these, will syphon dollars from funds that traditionally support the general operations of public colleges in favor of targeted funding to support career programming. More public dollars for higher education will come with specific purposes and restrictions rather than general support. Some will be in the form of performance-based funding while others will focus on areas in which the political system is responding to external pressure - like preparing a workforce - in order to demonstrate a responsive government. All of these factors will lead to the increased need to fundraise to support campus priorities.

In order to combat the attractiveness of "free college" programs, private institutions will rely more heavily on their reputation and additional tuition discounting in order to attract students. The average tuition discount rate for 2015-16, according to a National Association of College and University Business Officers was 48.6% for first-time, full-time freshmen at private colleges. At the same time, many of these colleges have experienced declines in enrollment which is placing an extreme fiscal squeeze on these institutions. When exploring why enrollment is decreasing, many colleges point to price sensitivity in the market. Some have begun to explore reducing their tuition in response.[86] This strategy will not last long without significant restructuring the private institutions' business model. In fact, Inside Higher Ed reported that in 2017, 25% of private not-for-profit colleges ran deficits.[87]

As an example of restricting its pricing model, Utica College in Utica, New York took the approach of lowering its tuition rates in 2016 in order to attract a more middle class student

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[85] Helhoski, Anna. "State That Offer Residents Tuition-Free College" nerdwallet.com May 2, 2017.

[86] Seltzer, Rick. "Discount rates rise yet again at private colleges and universities." *Inside Higher Ed.* May 16, 2018.

[87] Lederman, Doug. "A Quarter of Private Colleges Ran Deficits in 2017." *Inside Higher Ed.* June 27, 2018.

body rather than continuing tuition discounting. The result was a higher than usual incoming freshmen class. More institutions will examine this option to look more attractive. However, it will likely require the institutions to use more funds from their Foundations to support operations rather than for tuition dollars.

Facilities

Facilities on college campuses will change in order to address the learning needs of students. As discussed above, there is a great deal written about how students learn and lectures are cited as the least effective. As students come to college having been exposed to technology and spending much of their lives on-line, the need to change how colleges teach is becoming even more evident. College facilities will need to change in order to support the faculty in modifying their teaching styles to meet the needs of the students.

In an article published in the Planning for Higher Education Journal in 2016, Persis Rickes identifies several aspects of college space that will need to change to meet students' needs. Classroom space will need to have a larger per-student square footage as the space will be used differently and classrooms, once set-up in rows, will be gone. These spaces will be replaced with environments that support active learning that is applied, problem-based and team-oriented space. The space will have several pieces of technology and will need to be flexible with furniture that is easy to move for different teams at different times during the instruction. Spaces will need power and access to the Internet by multiple devices brought into the room by the students and faculty. Some spaces will need to support the use of virtual reality as a part of the instruction. This may mean open space where students wearing equipment can walk around the room safely while exploring a digital world inside wearable devices.

There will need to be more student gathering spaces for teams to meet outside of class. These too must support multiple electronic devices. Libraries will need both team space and quiet individual space where students can be alone and plug into outlets to charge their devices. They will need to have maker-spaces, that are equipped with tools and supplies where students can create products, projects, artwork, etc. that is related to their curriculum.[88]

Multicultural students will look for other types of space as well. They will look for faith-related space where they can pray and meditate regardless of their religion. They will look for space that is open and inviting while being safe. Students are very concerned with safety so space must have clear lines of vision and multiple ways out in case of an emergency.

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[88] Rickes, Persis C. "Generations in Flux: How GenZ Will Continue to Transform Higher Education Space." *Planning for Higher Education Journal*. Vol 44. No 4. July-Sept. 2016

It is very likely that all of these spaces will mean colleges will need to invest in the remodeling of existing spaces to accommodate new students and technologies. Colleges will wrestle with a balance between a modern, 21st century campus and the tradition of the brick building, campus-quad history of many institutions.

Conclusion

Higher education in the United States has proven to be durable and long-lasting through eras of change and social upheaval. Today, colleges and universities are facing, perhaps, their most challenging time with issues thrust upon them by elected officials, economic changes, shifting values, political polarization and diverse demographics. However, colleges that use this time to focus their efforts and search for opportunities rather than hope for the past will continue to attract students and meet the needs of their communities. Innovation and understanding their students will be key to the success of any institution. The U.S. system of higher education is seen as the best in the world. That will likely continue as long as higher education leaders look to the future.

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