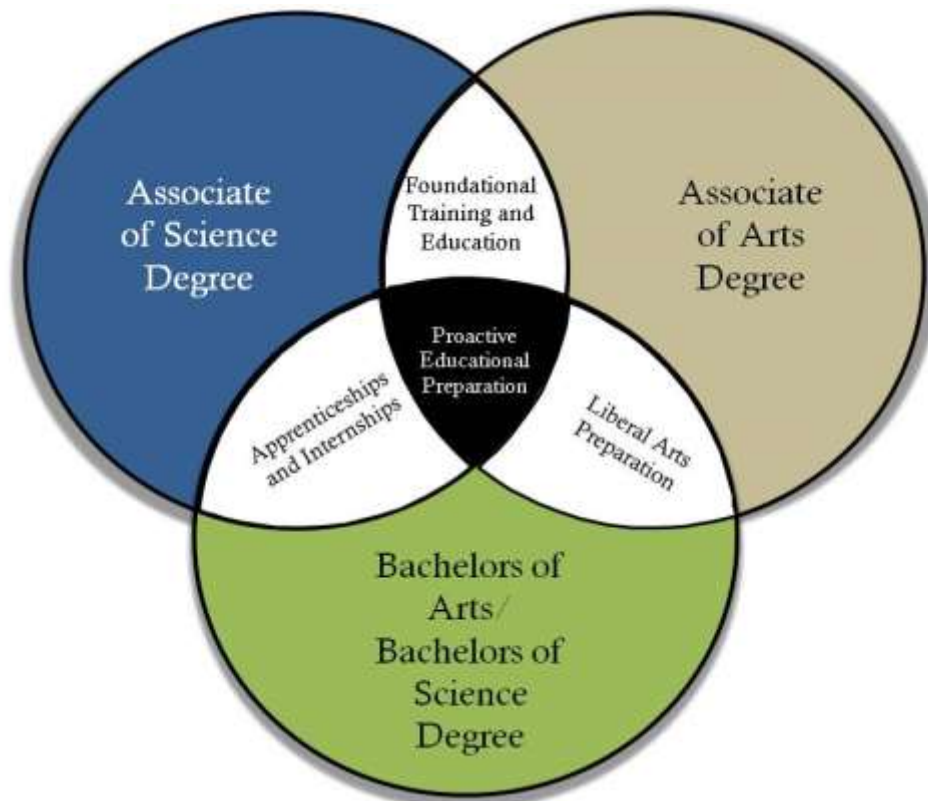


Financial, Economic and Optimal Maximization of Modern Higher Learning: *Rigor, Relevance, and Responsiveness*

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I. TODAY'S ECONOMY AND YESTERDAY'S ACADEMY

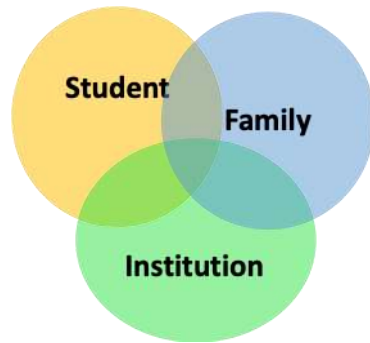
Purpose, Scope, and Aims

Today's academic enterprise remains academically, vocationally, and technically diverse for the American postsecondary education seekers ranging from those who are interesting in data mining, coding, informatics, or analytics to those with interests in the arts, chemistry, psychology, or literature. Whether students are seeking fields in the sciences, the arts or the professions, choices should have economic and financial returns on personal investment. This includes the considerations of certificate programs, micro majors and specialized concentrations but any heuristic configuration of must have rigor, relevance, and responsiveness to the marketplace. We frame a model in our commentary for the *Global Journal of Economic and Finance (GJEF)*. The model suggests that, given the diversity and range of offerings in American higher education, postsecondary seekers have choices for short-term job and occupational purposes, and long-term career and professional purposes. These two pathways do have to be mutual exclusive and can actually complement each other with mindful and purposeful strategic planning. How many times have you heard potential college bound students say, "Sure, I want to go to college, but right now, I have to make a living for myself and help my family" Or "I want to go to college, but I don't know what I want to study. On one hand, I love to read and write about literature; on the other, I also like doing physical things outdoors with my hands." Or, "I learn better in smaller classes and I would feel lost in a large classroom setting." Or, "I love to help people at my church with repairing things, but I also want beyond my church one day to learn more about different cultures around the world." This commentary is pointedly and purposefully titled, *Financial, Economic and Optimal Maximization of Higher Learning (FEOM)* to help readers inform postsecondary-seeking students, parents, families, communities, and institutions of higher learning find the balance for personal empowerment, academic enlightenment, and economic efficiency. The authors have found that, too frequently, many families have misconceptions about the benefits of and the return on an investment in higher education. From the authors' collective experiences, too often, families perceive higher learning based on inaccurate data, incomplete data, no data or information about options not far from their homes, neighborhoods, and communities.



The *phases* and *points* of progress for *FEOM* are discussed in this guide commentary through the eight points of *futuring, philosophy, anticipation, goal-setting, measurement, renewal, resource alignment, and human purpose/circling back* over three phases. The commentary is quite timely, given the national conversations and movement concerning the cutting back and the curtailment of federal financial support for lower income students – many of whom are first generation higher education seekers. This commentary is intended to reach the “idealist” and the “pragmatist,” the “dreamer” and the “doer”, the “farmer” and the “philosopher”; and “scientist” and the “artist.” As authors with over three decades of experience in adult, continuing, lifelong, higher, and other postsecondary education, we asked ourselves four fundamental questions in preparing and finishing this very timely commentary in today's unpredictable, uncertain, and unsure global economy:

1. *How can college students and their parents, particularly those from lower income households and others with very scarce resources, work together in partnership with institutions to strategically plan for mutually beneficial positive educational outcomes from higher education?*



Family Planning



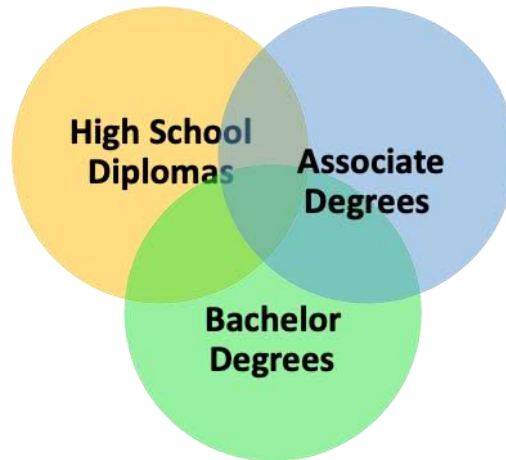
2. *What are the (a) optimal academic-rewarding and (b) maximal-financial-returning value-adds for college bound students in today's uncertain, unclear, and unpredictable economy?*
3. *How can students leverage both their vocational acumen and their academic assets from maximal optimization for shorter-term employment and longer-term career advancement?*
4. *How can short- and long-term planning for higher learning become part of the family nurturing, growth, ambition, and development?*

In our guide commentary, we provide an alternative framework with processes. We also conclude our commentary with general information about the community college sector to educate our readers about the sector's purpose, scope and mission, based on earlier classic work by McDuffie and Stevenson (1995). We use round shapes throughout our commentary to symbolize the meaning of "cyclical" manifestation, relational interdependence of higher education variables, and the need to constantly circle back for personal reflection. Readers will also pick up on our encouragement for spiritual foundation and faith-based grounding. We define analytics and informatics as the gathering, examination, and planning of *information and data* by postsecondary-seeking students and their parents that are needed to navigate the progress, the persistence, and the productivity in a modern college education. Data on personal strengths and areas of improvement; family survival and success stories; higher education tuition costs and other expenses; potential programs of higher education study; and workforce or career trends are good examples of leveraging informatics or analytics. We believe our commentary for GJEF can help, empower, and enable families to plan higher education with more focus, effectiveness, and efficiency in a socioeconomic climate with more choices, more challenges, and more alternatives by examining the academic marketplace more carefully and more collectively as a family.



We define empowerment as the leveraging of personal, educational, social, economic, and other available "capital" resources. Although we have primarily designed our guide commentary for college-bound students and their families, it can also be used by middle school or high school counselors, potential and prospective employers, community advocates, faith-based organizations (especially churches in impoverished neighborhoods), social activists, and academic advisors at two-year degree granting community colleges and four-year degree granting regional universities to support state economic growth. We write this commentary from urban Jackson, Mississippi and Washington, D.C. at a time when and where only 20 percent of African American males graduate from the publicly financed and tax-supported high schools; thus, impacting college education pursuits to exist from historical poverty and enter into future post-secondary and higher education. Last year, during Black History Month, *The Chronicle of Higher Education* (February 15, 2013) reported:

“A report published last year by the University of Pennsylvania documents the crisis facing black men in higher education, and warns that things are getting worse. According to the report, the relative number of black men entering college hasn’t improved since 1976, and only 33 percent of black male college students graduate within six years... Undoubtedly, the difficulties black men face on college campuses can be traced to the failure of elementary and secondary schools to engage black boys. As the College Board reports, black boys are unfairly singled out for punishment, and find themselves suspended and expelled at rates twice that of their white peers. When black boys aren’t “tracked out” of school and into prison, too often they are “tracked inside” of school, segregated in special-education or remedial courses that are unlikely to inspire or prepare them for college.”

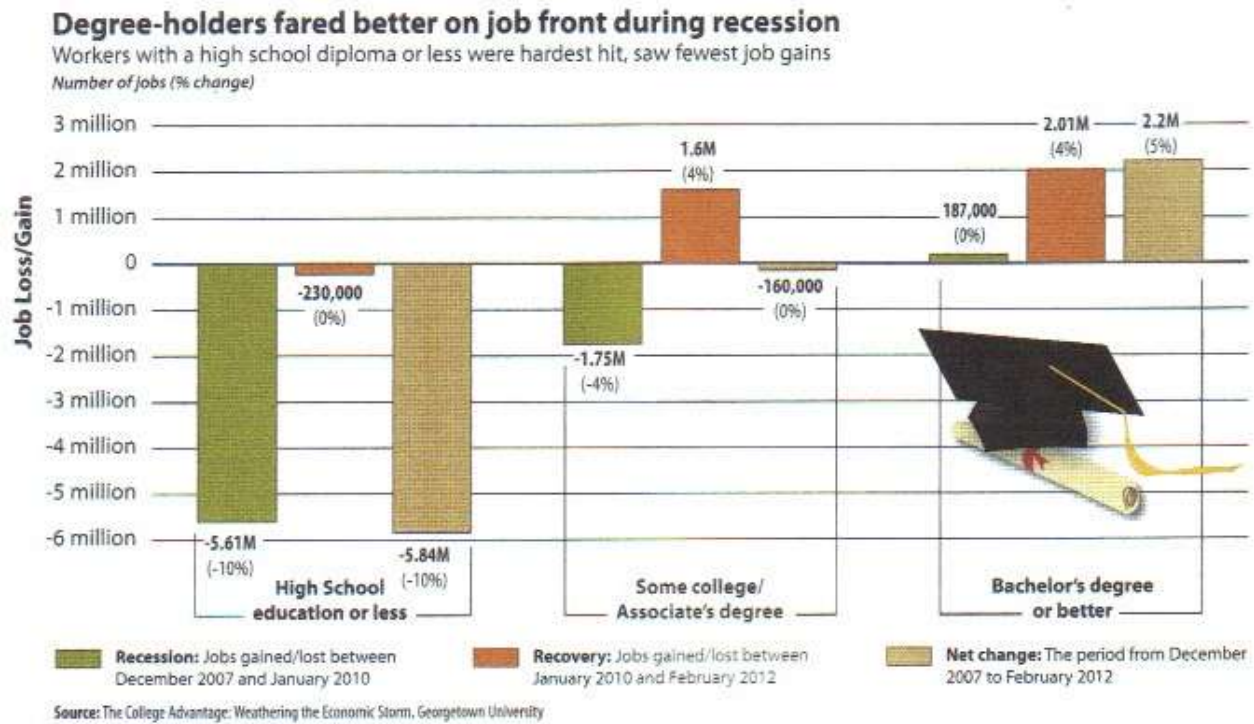


As recognized by Sacramento State University (2012), “A college degree is one of the few commodities holding its own as the recession lingers” and the personal, financial, and academic value of higher education is well documented in *Degrees Matter: Promoting the Payoff* at <http://cew.georgetown.edu/collegepayoff> sponsored by the Georgetown University Center on Education and the Workforce with support from the Lumina Foundation.



Figure 1 below shows how degree holders have fared better on the job front during the current recession and challenging economy, according to the nationally recognized Center at Georgetown University. Basically, “the higher the degree, the more options you have as a lifelong learner and leader” (Stevenson, 2013). **Figure 1** also denotes the lucrative value adds from comparing pre-collegiate diplomas to post-secondary education degrees.

Figure 1:



Our guide commentary emphasizes the utilization of combined community college level and university level of higher education to leverage, optimize, and maximize capital and other intersecting resources in today’s academy and economy. The phases and points of progress for commentary re discussed later through *futuring, philosophy, anticipation, goal-setting, measurement, renewal, resource alignment, human purpose/circling back*. We recommend these points at a time when lower income families as recipients, stakeholders, and beneficiaries of advanced higher learning, continue to struggle and survive with limited capital/resources, changes in the new global workplace, meeting unanticipated needs and unprecedented demands, challenges at home, and other compelling personal management challenges. These challenges are occurring in an economic recession when and where students and their parents need pragmatic, solvent, and innovative strategies to ensure the utility, the viability, the sustainability, and the productivity of students in today’s modern higher learning environment --- where there are so many options but so many limitations for most of today’s modern struggling families.



The gap between America’s lower income and higher income continues to widen throughout the country and the troubling pandemic of the lesser fortunate and lower income has received more pronounced attention in the past decade during our declining international economy. Also, on the economic horizon are the compelling demographics that suggest most of the future workforce needs must be met by highly qualified diverse workers— of which many are lower income and may need well-planned college education and training to succeed in the classroom, the workplace, and the world. In addition, the above statement by the *Chronicle of Higher Education* (2013) and Gary Younge in *The Guardian* (2014) more recently summed up the status of African American men in the following synopsis:

... almost 50% of black men in the United States under the age of 23 have been arrested; that's roughly the same percentage as black boys who fail to graduate with their appropriate year group. Meanwhile, almost one in 10 young black men are behind bars. Born in the poorest areas, herded into the worst schools, policed, judged and sentenced in the most discriminatory fashion, by the time African American men reach manhood the odds have been heavily stacked against them...

Agility as well as Ability

Compounding this widely recognized workforce requisite are the constant calls by government, the corporate sector, and high technology for today's institutions of higher learning to produce high-performing employees with higher order thinking "ability" as well as an acumen to understand wider order thinking "agility" associated with diversity, innovation, and, perhaps most importantly, working *across different disciplines* in our new world of competitive globalization. Indeed, this is the new world order.

II. GLANCE AT THE LITERATURE ON THE LOWER INCOME

The timeless literature on lower income and higher risk populations has generally remained consistent over the past ten years in our declining economy that has impacted these populations with deepening devastation. Orfield, Marvin, and Horn (2005) suggest that we must take on the barriers that impede social and racial justice in higher education, like financial aid and other areas to support the retention of minority students. Many of these potential students and future workers must come from lower-income households for a systemic convergence to manifest and meet national demands amid the realities pointed out by Lawrence E. Gladieux (2004) in his essay entitled, "Low-Income Students are the Affordability of Higher Education." He wrote, "Opportunities for college education remain sharply unequal in America. Students from families of lower and moderate-income backgrounds attend and graduate from college at much lower rates than those from middle- and upper-income echelons." Crockett with *Business Week* (2004) reported that enrollments of African Americans at some of the most prestigious universities in the U.S. are declining. Padrón (2004) also stated, "Higher education in America is in financial crisis. Soaring college costs and major cutbacks in financial aid have had a disproportionate impact on low-income and minority students. The effects are sustained by a still questionable economy, tax policy that has shrunk state revenue and the real costs of fighting war." Longley (2004) reported that "An overwhelming majority of Americans believe first priority in federal higher education aid increases should be given to low- and middle-income students striving for college," according to results from a study conducted by the U.S. House Committee on Education and the Workforce. Pope (2006) reported that the American Council on Education "estimates 1.5 million students who would probably have been awarded Pell Grants in 2003-2004 did not apply for them...the number of low-income students who did not file rose from 1.7 million to 1.8 million, or 28 percent of low- income students. However, despite these national and systemic challenges, a recent study cited in *USA Today* by Community College Survey of Student Engagement (CCSSE) concluded that, "Students who are considered high risk—typically defined as being less academically prepared minorities ... are generally more engaged in school than their colleagues."

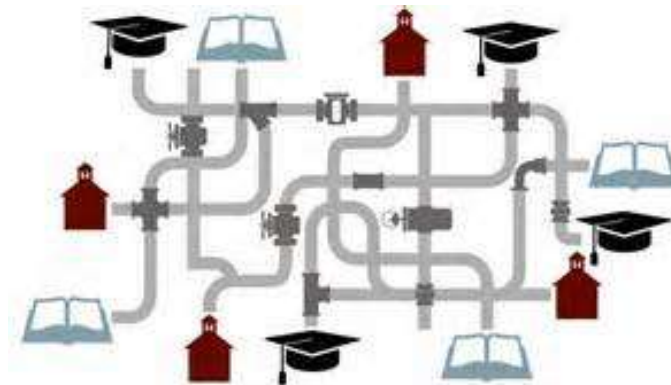


In New Mexico, state officials have considered the idea of "pay bonuses" to institutions of higher learning based on the number of at-risk (often lower-income students) who graduate with degrees, according to *Black Issues in Higher Education* (2004). Other universities, including Ivy League schools, have launched special programs to recruit lower income but academically talented students. In fact, over two decades ago, Stevenson (1996) suggested that an enrollment management strategy should consider "rewarding tuition relief to college students for high academic achievement—particularly for students who are considered high risk."



In Alexander Keyssar's (2005) essay entitled, "Reminders of Poverty," the author captured, "poverty is a deep, structural problem that implicates our values, our economic institutions, and our conception of the proper role of the state."

Around the same time of Stevenson's essay, Ronald C. Wimberly and Libby V. Morris (1997), citing others in their earlier research in *The Southern Black Belt* wrote, "Research shows that – especially for the South (Beaulieu and Mulkey, 1995; Goetz and Deberton, 1994; Clousser, 1991; Bergman and Rubin, 1989) – the lack of education is associated with unemployment, poverty, and other socio-economic problems. In numerous studies, education emerges as a major policy factor for improving the region." Certainly, colleges and universities are critical "knowledge-based" economic engines with a profound responsibility for elevating the lives of lower-income families from marginalized communities by creating and sustaining pipelines and pathways of progress for students.



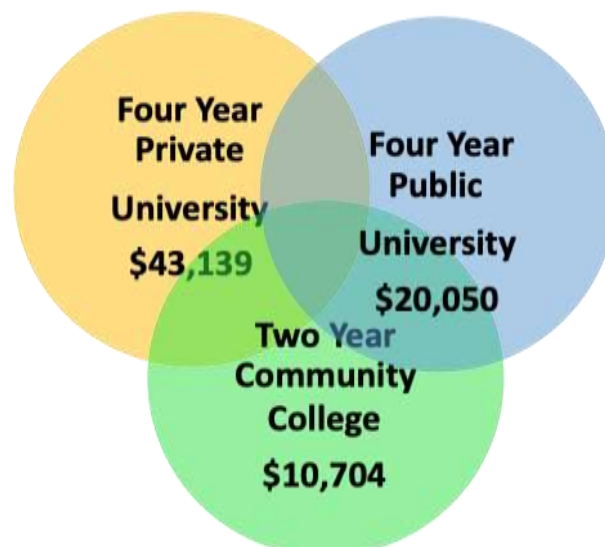
In this regard, colleges and universities are also critical "knowledge-accessed" academic equalizers with paramount responsibility for serving as the balance to social justice. Our commentary is aimed for the high potential of lower-income students from families with limited financial resources, compounded by limited information about the resources that are available to them.

We believe, with strategic and solvent planning, these students and their families can wreak the rewards of higher education from available "degree configurations" often overlooked, underestimated, devalued, and not marketed – especially given growing requisites around the world for combined cognitive diversity, career diversity, and cultural diversity. In fact, we encourage families to institutions committed to diversity.



III. THE 2+2+2 IN SIX OR LESS MODEL FOR MODERN HIGHER LEARNING

We suggest that the critical path in the pipeline is between the local community college and the regional university. We believe the option of 2+2+2 articulation and transfer is too often underutilized, overlooked, and devalued by families and communities without a closer look at the educational rewards, the career, the dividends, and the economic returns to the individuals who enroll in higher education and the institutions that enlist students in academia at the two-year and four-year levels. Indeed, the career dividends can result from “simultaneous and sequential” as well as “horizontal and vertical” planning of higher education by leveraging the left side and the right side of the brain. Art students can also study auto mechanics; political science students can study plumbing; chemistry students can study carpentry; education students can study electronics; and students with a talent for geometry can study geographic information systems. In fact, in this uncertain economy, students should be trained in a trade in the likely event the academic degree does not lead to a job. Moreover, working on and in a trade during college could offset the growing costs and expenses of higher education. Our premise builds on a combined “academic and apprentice” pathway for career and personal development. Students should be able to leverage a trade when times are rough; they need income to finance education; they need to keep the mind from idling; they need to make a living while exploring alternatives; and the economy is not career friendly (yet) for the more academically centered degree.



Just by Looking at the Numbers

In National Center for Education Statistics *NCES* (2020), the average costs for tuition and fees from four-year private institutions of higher learning was **\$43,139**; for four-year public institutions of higher learning (tax supported and subsidized) was **\$20,050**; and for public two-year community colleges was **\$10,704**. The average student loan debt is **\$40,000**, according to *The Price of College*, and the average high school graduate earns **\$26,300**, while the average college graduate earns **\$42,000**.

We suggest that this is the type INFORMATICS that is infrequently discussed in lower-income homes, churches, neighborhoods, and communities. HBCUs cost about half the amount of most majority institutions of higher learning. Moreover, the fact that some states are considering “free” tuition for community colleges, adds more economic value and strategic efficiency to our 2+2+2 advocacy. The point here is that, upon analysis, the community college-HBCU plan is exceedingly economic with many returns on investment for families and communities.

<i>Average total tuition, fees, room and board rates charged for full-time undergraduate students in degree-granting institutions, by level and control of institution: Selected years, 1985–86 to 2017–18</i>						
Year and control of institution	Constant 2017–18 dollars ¹			Current dollars		
	All institutions	4-year institutions	2-year institutions	All institutions	4-year institutions	2-year institutions
All institutions						
1985–86 ²	\$11,138	\$12,551	\$7,677	\$4,885	\$5,504	\$3,367
1995–96	14,133	16,590	7,588	8,800	10,330	4,725
2000–01	15,333	18,313	7,746	10,820	12,922	5,466
2001–02	15,847	18,992	7,962	11,380	13,639	5,718
2002–03	16,369	19,674	8,519	12,014	14,439	6,252
2003–04	17,272	20,674	8,940	12,953	15,505	6,705
2004–05	17,854	21,370	9,184	13,793	16,510	7,095
2005–06	18,247	21,760	9,022	14,634	17,451	7,236
2006–07	18,822	22,453	9,076	15,486	18,473	7,467
2007–08	19,019	22,696	8,951	16,227	19,364	7,637
2008–09	19,703	23,536	9,500	17,045	20,361	8,219
2009–10	20,206	24,186	9,778	17,650	21,126	8,541
2010–11	20,735	24,773	9,953	18,475	22,074	8,868
2011–12	21,154	25,090	10,191	19,401	23,011	9,347
2012–13	21,700	25,601	10,267	20,233	23,871	9,573
2013–14	22,171	26,084	10,445	20,995	24,701	9,891
2014–15	22,780	26,638	10,644	21,729	25,409	10,153
2015–16	23,367	27,213	10,838	22,439	26,132	10,407
2016–17	23,612	27,192	10,836	23,091	26,592	10,597
2017–18	23,835	27,357	10,704	23,835	27,357	10,704
Public institutions						
1985–86 ²	\$8,143	\$8,798	\$6,797	\$3,571	\$3,859	\$2,981
1995–96	10,047	11,264	6,772	6,256	7,014	4,217
2000–01	10,751	12,263	6,857	7,586	8,653	4,839
2001–02	11,170	12,805	7,154	8,022	9,196	5,137
2002–03	11,583	13,336	7,632	8,502	9,787	5,601
2003–04	12,329	14,233	8,016	9,247	10,674	6,012
2004–05	12,769	14,789	8,252	9,864	11,426	6,375

2005–06	13,036	15,098	8,095	10,454	12,108	6,492
2006–07	13,433	15,557	8,284	11,051	12,799	6,815
2007–08	13,561	15,739	8,178	11,570	13,429	6,977
2008–09	14,112	16,428	8,725	12,209	14,212	7,549
2009–10	14,676	17,214	8,824	12,819	15,036	7,708
2010–11	15,225	17,866	9,067	13,566	15,919	8,079
2011–12	15,656	18,303	9,396	14,359	16,787	8,617
2012–13	16,110	18,742	9,575	15,021	17,475	8,927
2013–14	16,504	19,113	9,803	15,628	18,100	9,283
2014–15	16,971	19,533	10,049	16,188	18,632	9,585
2015–16	17,459	19,998	10,324	16,766	19,204	9,914
2016–17	17,627	19,928	10,318	17,238	19,488	10,090
2017–18	17,797	20,050	10,281	17,797	20,050	10,281
Private nonprofit and for-profit institutions						
1985–86 ²	\$20,259	\$21,042	\$14,849	\$8,885	\$9,228	\$6,512
1995–96	27,637	28,284	18,571	17,208	17,612	11,563
2000–01	30,288	30,973	21,125	21,373	21,856	14,907
2001–02	31,210	31,882	22,036	22,413	22,896	15,825
2002–03	31,802	32,411	24,189	23,340	23,787	17,753
2003–04	32,832	33,427	26,078	24,624	25,070	19,558
2004–05	33,417	33,991	26,273	25,817	26,260	20,297
2005–06	33,552	34,082	26,689	26,908	27,333	21,404
2006–07	34,568	35,151	24,655	28,440	28,919	20,284
2007–08	34,890	35,426	25,417	29,768	30,226	21,686
2008–09	35,561	36,102	26,266	30,764	31,232	22,723
2009–10	35,880	36,459	28,006	31,341	31,847	24,463
2010–11	35,773	36,494	25,926	31,875	32,517	23,101
2011–12	36,045	36,720	25,737	33,058	33,677	23,605
2012–13	36,983	37,614	25,048	34,483	35,071	23,355
2013–14	38,011	38,649	25,207	35,995	36,599	23,870
2014–15	39,232	39,825	25,504	37,422	37,988	24,327
2015–16	40,630	41,168	25,383	39,016	39,534	24,375
2016–17	41,845	42,400	25,449	40,922	41,465	24,888
2017–18	42,681	43,139	25,596	42,681	43,139	25,596

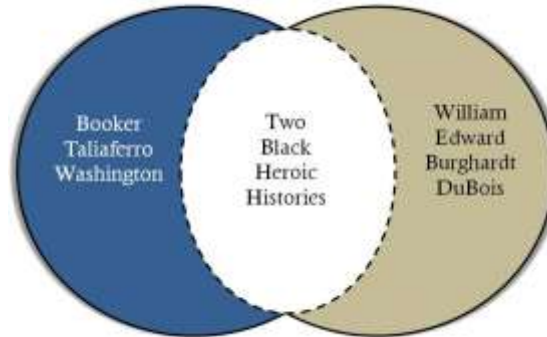
A Question to Consider about Today's Higher Education

Why not leverage both academic and apprentice options that are available to students at a lower cost and get three “wider order” degrees, two of which are associate level and one at the bachelor level, instead of one “higher order” degree in the estimated same period of time it takes to get the bachelor degree – especially in a world economy that requires wider order knowledge, skills, competencies, dispositions, and attitudes across varying disciplines and subject matters?

IV. HISTORY AND HEROES AHEAD OF OUR CONTEMPORARY TIMES

We recommend that families consider a more strategic planning process for decision making that builds on educational soundness and economic solvency: the 2+2+2 degree program configuration capitalizes on the early rooted intersection of educational, pragmatic, profound, and visionary philosophies of W.E.B Dubois and Commentarayer T. Washington in African American history, culture, higher education, and society.

Figure 2: Intersection of Thought between Two Legendary Heroic Educators



Washington was raised in a rural setting, while Dubois was raised in a city environment. Many of today’s student profiles come from similar diverse venues, environments, and landscapes. This profile gives our commentary a timely opportunity to oscillate from what we can learn from our past to what we can leverage for our future. Perhaps nowhere in American history is this duality metaphysically or metaphorically described than the debate between Dubois and Washington. Some of our HBCU colleagues have expressed concern about the loss of enrollment revenue and returns from the freshman and sophomore years.

However, this is a matter of shifting focus, redirecting resources, and planning more strategically for systemic enrollment management. Outsourcing the first two years of higher education to a sector that is quite effective with teaching learning at this level, the community colleges, seems to make sense for both academic effectiveness and economic efficiency. To support this revenue loss from freshman and sophomore enrollment, the institution can redirect efforts, energy and resources to upper division and graduate studies. Thus, moving the benefits, returns and dividends from the following:

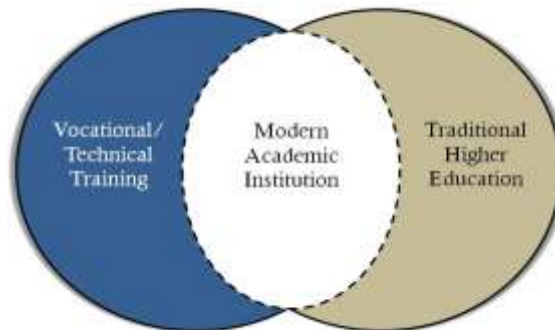
- ✓ (a) four-year enrollment in freshman, sophomore, junior and senior matriculation (four years) to
- ✓ (b) junior, senior, first of graduate school, and second year of graduate school (four years)

Resultantly, this means not only does the institution benefit from this strategic redirect, this also provides the opportunity for the institution to recruit earlier than usual at the community college level by matching community college student interests with graduate studies at the institution. Here, again, are the fundamentals of strategic planning, forecasting, positioning, and forward-thinking. We also want to stress, again, that HBCUs are still accessible, affordable and achievable for its unique market share.



These two heroic men had dramatically different educational philosophies that relate to the modern community college of our contemporary times. Washington strongly believed in self-reliance, practical education, and applied skill development for industrial occupations. He believed that ultimately this developed economic power in the African American community. Dubois believed that political power was paramount to the advancement of African Americans through the development of academic and other epistemological experiences that would probably be considered “liberal arts” in our present era. In both cases of these two American heroes, their philosophies were transformative and profound, yet conflicting to some. Their philosophical wisdom transcends gender, race, age, culture, and ethnicity (GRACE) in our contemporary culturally diverse society and new global economy.

Figure 3: Modern Academic Institutions – Integrating Vocations and Academics



Among the many lessons we have learned from this type of “either or” debate in our modern context of the community college, is that the academic route and the vocational-technical route are not mutually exclusive. In our new global economy, however, they are not only interconnected, they are interdependent and useful for students who need to earn a living, develop a skill, and also anchor academics within the average time period of many who enroll and graduate from college --- five to six years. Our traditional advocacy for vertical “higher order” ability and sequential educational planning of higher learning, has now been strengthened with our future advocacy for horizontal “wider order” agility and simultaneous educational planning for higher learning in the new world surrounded by emerging globalization and oscillating economies of scale. Setting goals for both higher order and wider order excellence should be discussed by students and parents in terms of pursued knowledge, skills, competencies, behaviors, attitudes, and dispositions. For instance, a political science major may pursue her field of academic study based on her personal needs for social justice, but also pursue an apprenticeship in plumbing based on a family business interest, community needs, or demands in a local market. Specifically, we prefer to balance higher order ability with wider order agility for skill development and knowledge acquisition, where learning across transdisciplinary curricula is as important as learning upward in curricula toward successful degree completions. We believe that frequently parents know the strengths, assets, attributes, and weaknesses of their children and families should openly discuss these areas when strategic planning for the optimization and maximization of higher education. This opinion-driven data can be useful as part of personal planning with other informative data from guidance counselors, employers, pastors, former teachers, mentors, career assessment tools, and personality trait instruments. We want to stress that both vocational-based and academic-centered programs of study require modern critical thinking and writing. Both areas require geometrical symmetry and relationship leveraging of the head, the heart, and the hands (Stevenson, 2013).

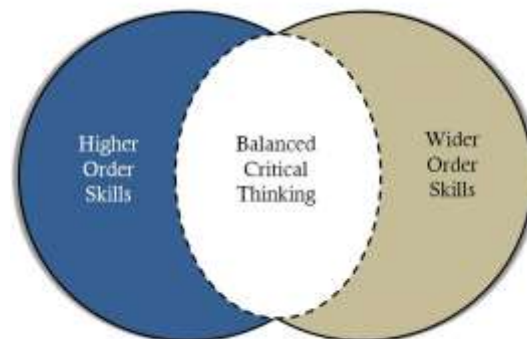
Good Practices for Articulation and Transfer

Stevenson served as a Special Assistant to the President for Strategic Planning at La Guardia Community College with the City University of New York City. He authored *The York College Primer Negotiating Articulation and Transfer with Community Colleges* (1995), and was among the original leading educational crafters of the National Articulation and Transfer Network (NATN) established at the San Francisco City Community College District. He suggests that students, families, and academic advisors should look for extremely specific characteristics of good articulation and transfer agreements (ATGs) that are still relevant today for community colleges and universities.

Additionally, he suggests that ATGs should have clear, coherent, and consistent definition of terms and include methods and means for resolving problems and conflicts, as well as methods and means for effective collaboration and communication. Having a record and reputation of well-functioning cross sector ATG teams for student consumers is essential. Specifically, we elaborate on what students and families should look for in these agreements when pursuing three degrees over a period of five to six years. Consider the following:

- Make sure the agreement is in writing and signed by the president of the two- year community college and the president of the four-year university. There should be an advisory group to monitor the signed agreement.
- Get a copy of the agreement and the list of specific courses that are offered between the two institutions. Note some classes are not offered in a timely manner; thus, making planning ahead very instrumental and important.
- Make sure the agreement has designated personnel for facilitating the implementation of the agreement. The personnel should advise students from a well-organized curriculum and sequential program of study.
- Make sure the designated personnel for facilitating the implementation of the agreement provide particular guidance on the requirements for remedial and developmental classes, as well as guidance on common core or general education courses that may meet the requirements in both academic and apprentice areas of study.
- Make sure the agreement has a process for assessing effectiveness or evaluating efficiency throughout the implementation of the agreement.

Figure 4: Balanced Critical Thinking as an Individual and Institutional Goal



V. NEW DEGREE CONFIGURATIONS, ALTERNATIVES, AND CAREER OPTIONS

Nowadays, many students are taking up to five to six years or longer to complete their college degree at a four-year university and borrowing more aid to pay higher tuition rates compared to community colleges. In the same six-year period, **or less**, a student could attend a community college and work simultaneously on two separate associate degrees to enhance career mobility and cognitive development. Academic, professional, and vocational “certificates” are also on the rise. We suggest “or less” because some of the core general education courses in the vocational and academic tracks in community college curriculum could be transferable within a two-degree program of study. The associate of science degree could focus on a vocational, technical, or industrial area that could result in certification, licensure, or apprenticeship achievement. The associate of arts degree could focus on an area in the liberal arts like English, mathematics, psychology, or sociology. The associate of arts degree could be used in an articulation and transfer agreement with a university. For example, all of the below “vocational technical” areas could be studied in conjunction with liberal arts.

Or, an associate of arts degree in human resources; an associate of science degree in applied technology; and a bachelor's degree in business based on meeting a local economic development need or a local workforce demand in today's competitive marketplace?

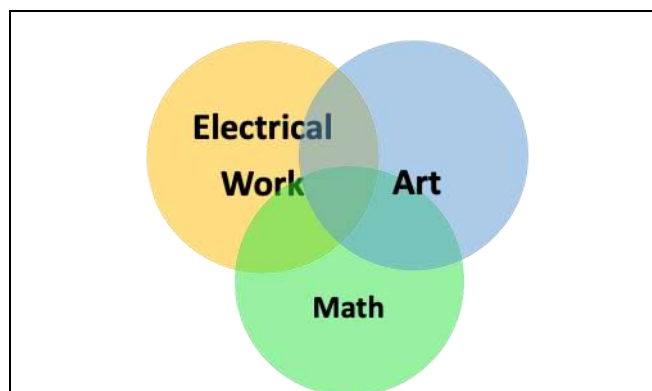
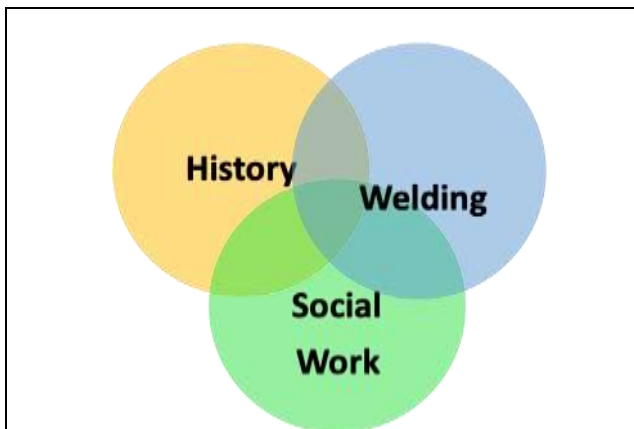
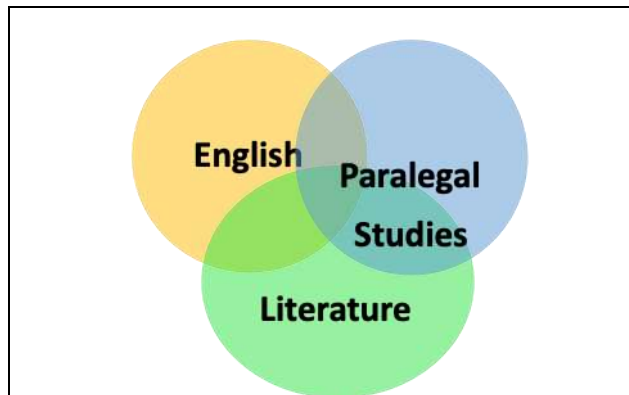
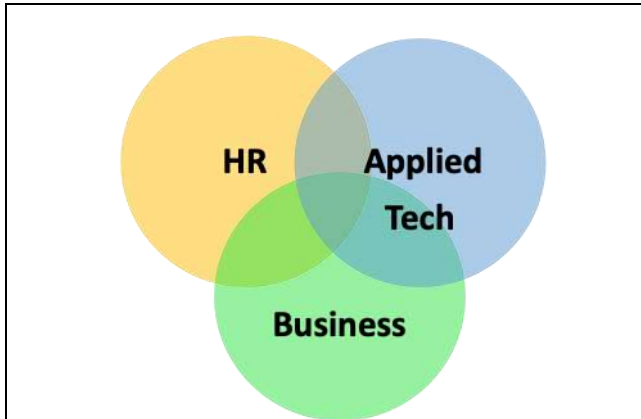
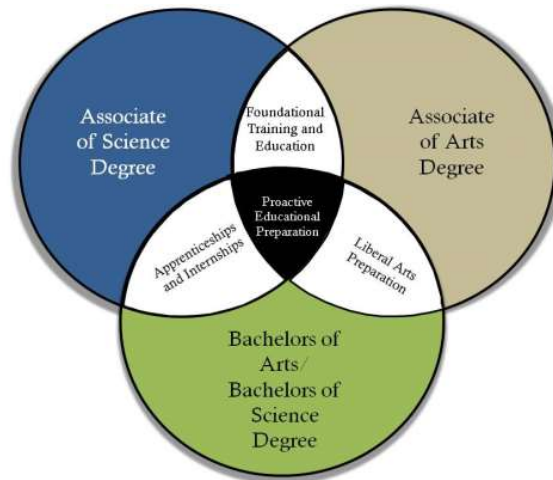


Figure 5: New Educational Pipelines and Opportunities for Niche Building



The world has changed dramatically, and families need to think differently about optimizing and maximizing higher education. This sentiment is stated very effectively in Thomas Friedman and Michael Mandelbaum’s recent commentary, *That Used to Be Us: How America Fell Behind in the World It Invented and How we Can Come Back* (2011), where they indicate that “average is over.” In other words, the usual, good enough, and sufficient, all common terms, should be expunged from individual and institutional vocabularies. We have now entered a new normal in higher education to now think beyond normal and families have a critical stake in their educational and economic future. Families should embrace the opportunities made available with strategic vision and responsive adaptation. In an era where national economic sustainability is so vital, seekers and providers of higher education must play a major role in preparing for the nation’s current and future competition in a global economy. The diverse populations that are becoming more visible on college campuses are often from families with low-income status with needs to be more resourceful and economically prudent. Many have not had the best preparation for college and are not privy to the wisdom of a family’s experiences in higher education. Many students from lower-income, higher risk college backgrounds need to have hope with a vision, planning with strategy, and patience with purpose – all of which requires working collaboration with others.



However, learning beyond the high school diploma will have to be a major goal for these students, if they are to be personally, professionally, and economically successful as they compete nationally and globally. Combining vocational skill with academic knowledge increases value for the student. For mutually beneficial success to occur, therefore, the two partners in this journey - students and their parents - must converge and work interdependently to ensure productivity and sustainability. Our process requires a vision, a strategy, and a lot of patience on the part of students, parents, and families. Additionally, students should seek advice on how to successfully maneuver to attain a two- or four-year degree.



VI. PLANNING WITH EMPOWERFUL INFORMATICS

Again, this commentary, which we have pointedly and purposefully titled, Financial, Economic, and Optimal Maximization of Higher Learning for readers to empower and can help students, parents, families, and communities find the balance for personal empowerment, academic enlightenment, and economic efficiency. We introduce the concept of convergence, a merging intersection of confluence between students and parents, to promote informatics and analytics with strategic “points of progress” to benchmark as parts of the plan. Following a general overview of socio-economic-global conditions, we discuss preparedness and the practice of insular planning for lower-income students, parents with limited resources, and institutions of higher learning interested in recruiting, retaining, matriculating, and graduating students.



The concepts in this commentary suggests the process of relational insularity with interdependence, and proposes a more strategic methodology for use by both individuals (students, parents, families) and institutions (colleges and universities) to build on interdependent capital and resources, such as energy, time, focus, commitment, dedication, discipline, and planning. It is suggested that the effective and efficient utilization of these resources can be maximized by using points of progress that begin at admission, and focus on key points of student progress – from retention, to persistence, to graduation, to placement. Personal, academic, and career (professional) challenges in the classroom (as a microcosm of the workplace) posed by lower-income students provide unique opportunities for family discussion about meeting student learning needs with demonstrable outcomes. This commentary can help students and families reflect on needs and develop planning strategies based on data. This process includes the collection of data and the identification of benchmarks to sustain higher learning. Student points of progress are defined here as measurable points such as retention in the AA/AS degree programs and graduation in the BA/BS degree programs. After the student and her or his family have identified which points of progress should be targeted within the degree programs, a strategic plan of action should be developed by the student and shared with his or her college advisor with specific parallel to the “articulation and transfer” agreement between the community college and the university as a quasi “social contract.” Student pursued research on academic, career, and personal development concerning all the fields of academic and apprentice study should be part of the data gathering process. Also, students should especially confirm any requirements that they may need to be met concerning remedial or developmental education as possibly the result of limited college preparation from high school. The identification of progress points and the plans for measuring them should be the result of solutions to problems, barriers, or other impediments to prevent the risk of attrition (drop out), promote optimal learning, and propel maximal leadership by the student on behalf of her or his family, neighborhood, community, and the world.



Phases and Points of Progress

The fundamental concept behind our commentary has **three** basic undergirding phases: *management of knowledge, leadership development*, and the *application of informatics* for educational success and economic progress for eight (points of progress) of *futureing, philosophy, anticipation, goal-setting, measurement, renewal, resource alignment, human purpose/circling back*. It is essentially a “business-type plan” between the student, the family, and the institutions of higher learning. Stevenson (1994a) described “leadership development” as the exposure, empowerment, and engagement of interdependent learning activities, which contribute to the personal, academic, and professional development of students.” He argued that the student and the institution should be responsible and held accountable for leadership development.

Before reviewing the recommendations for conceptualized INFORMATICS, the outcomes would suggest that all students, but especially the lower-income who are frequently vulnerable, should consider the following as a predisposition for ongoing success, continued engagement, and educational progress toward degree completion:

TO THE STUDENTS

Before Planning the Phases and Points with EMPOWERFUL INFORMATICS Lay the Foundation with Your Family and Friends and Anchor the Groundwork for Your Life:

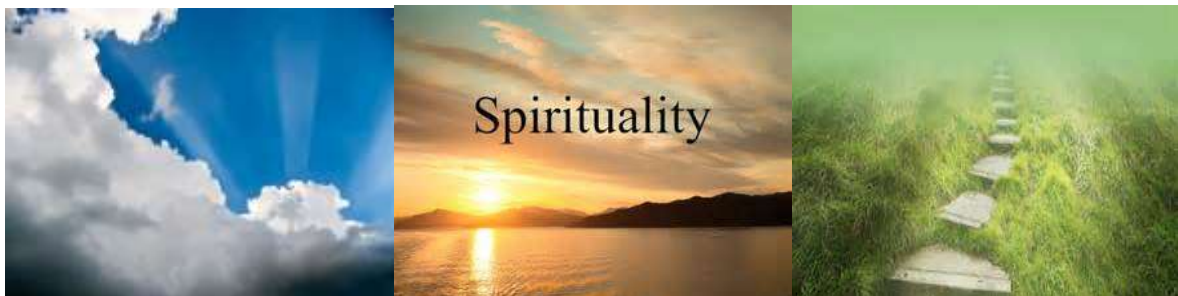
- Think about how you will maintain a well-grounded sense of purpose, keep a positive attitude, and stay focused on exemplary achievement and accomplishment in your personal development. Thus, at the onset of entering the freshman year for your first associate degree, you must strive to balance self-discipline, self-determination, and self-dedication. You must remember that this is a five- to six-year commitment to your higher education



- Think about how you will plan ahead for registration, financial aid, class sections, advisement, and compliance of “all” standards for degree completions. You must think about your curriculum and the three degree programs of study over the course of five or six years; not just from semester to semester, class to class, grade to grade. This will require particular and proactive attention to degree program requirements, deadlines, timeframes, and academic calendars.



- Think about how you will spend time routinely, once at the beginning of your day and again at the end of the day, reflecting on grades and how personal, academic, and career development all fit together. Use this time also for prayer, self-reflection, and spirituality.



- Think about how you will spend out-of-the-classroom time with others who do not look like you but share your personal background, career interests, and life ambitions. This will complement your wider order “agility.” You should do this while maintaining a sense of self-pride and recognition of your rich heritage. Look inward, embrace outward, aim high, and think widely and wisely.



- Think about how you will plan ahead and establish priorities. The below INFORMATICS will help, but you must be primarily responsible and accountable for progress. You should avoid peer pressure, maintain good health, and stay true to your purpose for existence on campus—to become educated, engaged, and empowered through optimal learning experiences and maximum performance academically.

The statements above are shared by the authors with parents and entering freshmen or transfer students. Each recommendation requires students to master the facilitation, coordination, and development of their actionable knowledge via action research. Stevenson and Schmuck (2011) developed a methodological process for the two types of action research that could be user friendly for individuals who want to apply data gathering results for decision making and institutions that want to apply the findings from data gathering in developing policies and practices for individuals. They defined “responsive research” as the process of collecting data to diagnose a situation, analysis of the data, and the introduction of a new practice based on data results. “Proactive research” is defined as the process of applying or experimenting with a new practice, the collection and interpretation of data, reflection, and then implementation of the new practice. We believe students, families, and institutions of higher learning can apply either as they relate to gauging progress, productivity, and performance in higher education. In a pilot study conducted by Maddirala and Stevenson (2003), students who used action research to collect data about their personal, academic, and career development, compared to those who did not, performed exceptionally well toward the preparation for the second year of college. Many of these students were considered high risk and came from lower-income households. The students gathered and analyzed data about their majors using ACT Discover software and other library research tools, analyzed personal data for financial planning, researched and analyzed career data about workforce trends in their pursued profession, and wrote personal mission statements. Students were also trained to create portfolio plans for future guidance and measurement toward goals, when and wherever possible integrating web-based technologies. Our commentary’s concepts bridge all these student aspects and merges them with efforts that could be enhanced by parental and familial support based on priorities and practices. When two of the authors of this commentary served together as chief academic and student affairs officers, they instituted the following student support and academic services for facilitating student persistence toward degree completion at Jackson State University in Jackson, Mississippi:

<ul style="list-style-type: none"> • Institutional action research methodology, a scholar’s center for students and faculty, and a service-learning center to better engage students in active learning
<ul style="list-style-type: none"> • Promulgated covenant of collegiate conduct, student forums, and advocacy for the core curriculum to help students develop coherent values
<ul style="list-style-type: none"> • Emphasis on accreditation standards with regard to student learning outcomes and academic assessment in degree programs
<ul style="list-style-type: none"> • Leadership development for athletes and enhanced academic benchmarks to set and communicate high expectations for learning
<ul style="list-style-type: none"> • Alliances with other research universities and articulation/transfer agreements with community colleges to forge educational partnerships that advance student learning
<ul style="list-style-type: none"> • Reallocation of resources between student and academic affairs to use resources effectively to achieve institutional mission and goals
<ul style="list-style-type: none"> • Implementation of residential “learning communities” and a campus-wide multicultural curriculum transformation initiative called “transcultural triangularity” to build on cultural diversity and inclusive communities
<ul style="list-style-type: none"> • Reorganization of the academic enterprise through strategic planning by using systemic inquiry to improve student and institutional performance

Institutional leaders of higher learning who are reading this guide commentary might consider using proactive as well as responsive action research and establishing similar infrastructural support mechanisms for lower-income and higher-risk student populations. We also recommend that the institutional readers consider:

Stevenson, J. M., Buchanan, D., and Sharp, A. 2007. “*Commentary: The Pivotal Role of the Faculty in Propelling Student Persistence and Progress Toward Degree Completion*”. *Journal of College Student Retention*, Vol. 8, No. 2, pp 141 – 147.

This reference is particularly resourceful for faculty guiding students who are pursuing multiple areas of studies and three degrees over an extended period of time. INFORMATICS primarily focuses on persistence, productivity, and progress to improve student and institutional progress. **Figure 6** highlights some of the main constructs and the planning of locus for control between the students, parents, families, and institutions of higher learning. Here we note that “family” scope should be determined by students and can involve, but not necessarily be limited to grandparents, mothers, fathers, aunts, uncles, siblings, cousins, or others who students feel most comfortable with to support their pursuit of higher education. The implementation of different, elevating, and maturing phases points of progress for the plans will vary from student to student, family to family, and institution to institution. This will depend on dedication, priorities, readiness, capability, and the leveraging, optimization, and maximization of available resources over the course of time between beginning the first associate degree and finishing with the third degree at the bachelor level. We estimate this period to be five to six years or less.

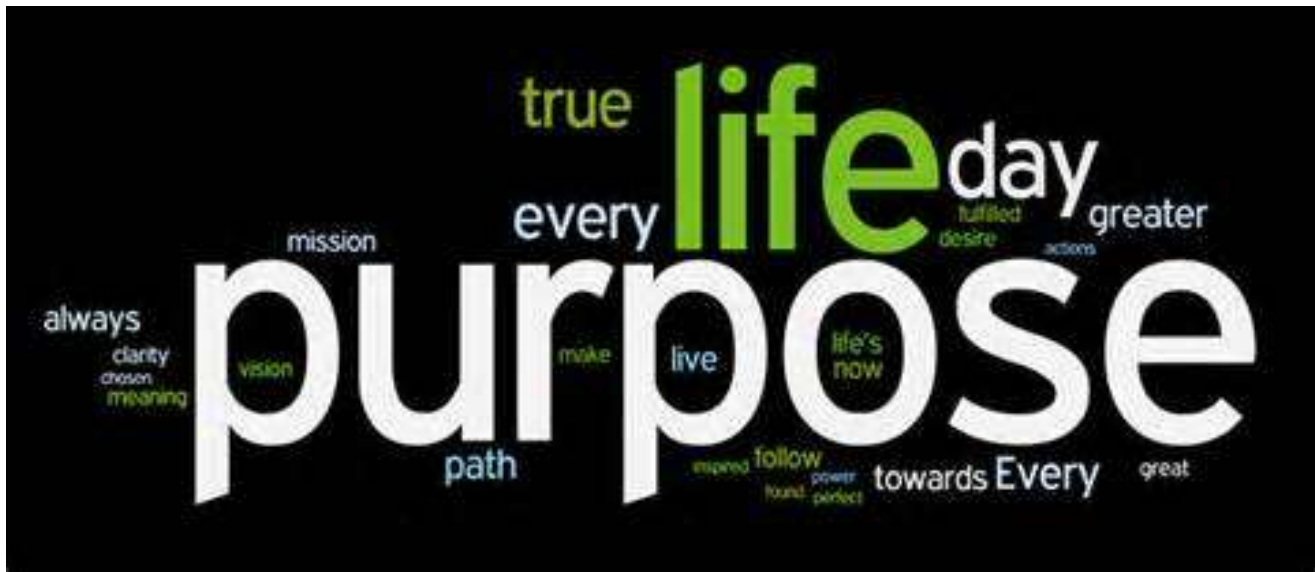








Figure 6: Constructs of EMPOWERFUL INFORMATICS

Family/Parents	Students	Institutions of Higher Learning
<p>Phase One: Management of Knowledge</p> 	<p>Management of Knowledge</p>	<p>Management of Knowledge</p>
<p>Point One: Futuring</p> 	<p>Futuring</p>	<p>Futuring</p>

<p>Meet as a Family to Discuss Alternatives with Students Based on Family Perceptions</p>	<p>Develop a Personal Vision; Explore Self Through Action Research Data About Strengths and Areas of Improvement; Determine Preferences, Probabilities, and Possibilities</p>	<p>Provide Action Research Method and Means for Students and Faculty; Anchor a Compass for Students to Follow to Navigate</p>
<p>Point Two: Philosophy</p> 	<p>Philosophy</p>	<p>Philosophy</p>
<p>Meet as a Family to Review Historical and Past Success Stories</p>	<p>Write a Philosophical Mission Statement; Engage Self Through Action Research Data About Academic, Financial Personal, and Career Information.</p>	<p>Provide Faculty or Staff Preceptor to Guide Philosophical Mission from Action Research Data Based on academic and Financial Information Especially</p>
<p>Point Three: Anticipation</p> 	<p>Anticipation</p>	<p>Anticipation</p>
<p>Meet as a Family to Review Historical and Past Survival Stories; and Balance Between School, Work and Family</p>	<p>Anticipate Barriers, Impediments and Challenges; Get Back Up When Falling; Balance School, Work and Family; Focus on Positive Change Reacting with Good Spirit; and Anticipated Outcomes</p>	<p>Anticipate the Planning to Help Students When Needed; Provide Support Services and Programs to Foster Balance and Change; Consider an Outcomes-Based Advisement Data Base Through Social Media</p>

<p>Phase Two: Leadership Development</p> 	<p>Leadership Development</p>	<p>Leadership Development</p>
<p>Point Four: Goal Setting</p> 	<p>Goal Setting</p>	<p>Goal Setting</p>
<p>Meet as a Family to Review Targeted Goals and Outcomes</p>	<p>Set Self Goals for Three Degree Plan Against Articulation and Transfer Agreement; Reflect Again on Preferences, Probabilities, and Possibilities from Point One; Create Graphic Screen Saver About Your Goals on Your Cell Phone, Computer Tablet, Laptop, and Desktop</p>	<p>Help Students Set Goals Against Articulation and Transfer Agreement; Institutional Services and Available Resources; Ask and Assess Whether Institutional Infrastructure is Responsive</p>
<p>Pont Five: Measurement</p> 	<p>Measurement</p>	<p>Measurement</p>

<p>Meet as a Family to Go Over Possible Measures, Metrics, Goals, Outcomes, and Family Experience with Creativity and Innovations</p>	<p>Develop Measures and Metrics for Continued Performance and Productivity; Think Strategically Against Articulation and Transfer Agreement; and Gauge Against Points One, Two, and Three</p>	<p>Establish Mechanisms to Help Students with Measuring Persistence Against Degree Completions; Encourage Students to Plan Strategically Against Articulation and Transfer Agreement; and Gauge Against Points One, Two, and Three</p>
<p>Point Six: Renewal</p> 	<p>Renewal</p>	<p>Renewal</p>
<p>Meet as a Family to Review Ways to Stay Informed About Home, Family, Community, and Your Critical Higher Education</p>	<p>Remain Renewed; Think Fresh; Stay Informed About Occurrences in Your Fields of Study; Keep Abreast of Progress; Continue to Balance School, Work, and Family</p>	<p>Promote Lifelong Adult Learning; Provide Resources About Trends in the Disciplines, Workforces, New High Technologies, and Globalization</p>
<p>Phase Three: Application of Informatics</p> 	<p>Application of Informatics</p>	<p>Application of Informatics</p>

<p>Point Seven: Resources</p> 	<p>Resources</p>	<p>Resources</p>
<p>Meet as a Family to Circle Back on Your Initial, Ongoing and Culminating Experiences, Especially the Academic and Financial Planning, to Share with Younger Family Members and Church Members</p>	<p>Circle Back and Analyze All Collected Research Data Concerning Personal, Academic, and Career Information and Resources; Get Ready to Execute Your Plan</p>	<p>Provide Data Concerning Personal, Academic, and Career Information, Research, and Resources; Guide Students on Readiness to Execute his/her Plan for the Three Degrees</p>
<p>Point Eight: Purpose</p> 	<p>Purpose</p>	<p>Purpose</p>
<p>Meet as a Family to Circle Back on Your Initial, Ongoing, and Culminating Experiences, Especially the Personal and Career Planning, to Share with Younger Family and Church Members</p>	<p>Stay Grounded; Stay Focused; Stay Committed; Balance Center; Circle Back on All Points; and Move Forward and Upward</p>	<p>Promote Larger Purpose to Students; Provide Reflective Capstone Activity for the Students to Celebrate Three-Degree Plan</p>

In summary (and in recognition of individual flexibility and institutional fluidity), immediately following the crafting of a vision for future success based on projected societal possibilities, scientific probabilities, and personal preferences, students should use this vision for framing a foundation for pursuing the three-degree program of study. The vision should be the genesis for provoking strategic planning and igniting positive thought. Resources for developing action research data to help with decision making should be secured as soon as possible. This will anchor the much-needed investigative mindset for the student.



The data should be shared with family and friends. After the crafting of the vision, the student should write a personal mission statement and philosophy of higher education to internally guide the compass and map to success. The institution should assign the student a staff or faculty preceptor to facilitate this process against the components of the articulation and transfer agreement between the community college and the university. This statement should identify important priorities that could range from planning ahead for courses where the student has weaknesses or identifying the time over the next few years the student will engage in service-learning activities to develop the earlier reference in the commentary, “wider order agility” acumen—perhaps in his or her hometown or in a neighborhood with lower-income populations. Thus, “giving back,” sharing experiences to promote others, and externalizing the philosophy will be achieved. The institution can help by facilitating the community activity or service. The institution should inventory and examine all of its resources to help students and families when they encounter the reminders of oppression, exploitation, and demise. This could mean instituting *One Stop 2+2+2* advisement centers to provide direction on academics, financial aid, or career counseling.



Students should collect data from available online and onsite sources to support action research. The institutions might also consider designating special “tutorial cafes” or provide specialized computer software as well as support mechanism through social media. Students should have an action plan of intervention when things do not go as planned as a result of stumbling blocks, institutional barriers, changed conditions, and other impediments in the collegiate culture. Always have a “Plan B” or even “C” when “Plan A” does not work. Financial planning of aid is essential to goal achievement. The process of “change” must be embraced by students and their families and taught by the institution. Now that a vision is crafted, a mission is written, and a plan of action is developed to mitigate against failure, both students and the institution should crystallize four to five stretch goals for the future. Students should review plans, vision, mission, data, and information with an official advisor or preceptor to aid in the endeavor. Goals should be conceptualized in the “short-sight,” and the “far-sight.”



Sample questions by the advisor for the student might include: Where are you in your future at the “zenith and peak of your life?” How did you get there from this three degree journey? What do you want to achieve and accomplish? The student’s questions to the advisor should be: How can this institution help to get me there? What outcomes should I produce to get there? How can I persist and succeed? How can I be globally educated and technologically proficient? No plan or process of goal setting is useful without a strategy to measure its effectiveness. Given the grounded philosophy by the student supplemented by guidance from the institution, how should both the student and the institution measure success and gauge the philosophy toward all the other phases and points of progress? Where are the mutual benefits to this relational insularity? The institution, through a strong core curriculum and a good articulation and transfer agreement, should facilitate this measurement through the introduction and interdependence of transdisciplinary relationships in subject matters across the curriculum. Students should be engaged by developing a critical thinking framework for determining cause and effect; analyzing relationships and patterns, participating in group dynamics, adapting to accelerated change, recognizing reality from rhetoric, recognizing faculty reasoning and illogical fallacies, distinguishing fact from fiction, determining completeness and accuracy of information, and synthesizing all of the above for the prudent management of knowledge. All of this will help wider order agility as we as higher order ability. The institution should develop students as lifelong learners. This means providing services and programs not only for entering students but for alumni as well. The university or college must serve as a learning community, available for individuals regardless of their station, space, or stage of life. Students should keep abreast of emerging trends and new developments in their discipline and profession. Indeed, this is needed to sustain a healthy national economy and educated citizenry. Before graduation at each associate and bachelor’s level, students should become aware of professional journals, career social media, and websites that provide this type of current information. Staying in contact and networking with other student colleagues and faculty mentors are also helpful. The institution should provide current journals, periodicals, commentaries, and online resources for student use to aid in reaching the phases and points of progress. Institutions should frequently survey employers about their workforce needs, economic demands, and other information about relevant employment. The student’s preceptors should hold ongoing discussions, prior to graduation, about the resources (i.e. financial, spiritual, human, environmental, and technological) that are typically needed for students to succeed in the workforce or later in graduate or professional school. Career and personality temperament inventories can be revealing and insightful in this regard. Pre-graduation or exit interviews should also be considered. All of these resources should be considered interdependent or connected for success. Often, younger people think in the present and not in the future. The institution’s preceptor and the student should identify and discuss the resources required for graduate or professional school and develop a plan to empower the student accordingly.

VII. WHAT INSTITUTIONS CAN DO GOING FOWARD

Institutions should consider a senior experience or project that helps the student reflect and culminate the 2+2+2 higher education experience. Hopefully, the experience has resulted in a student with a well-grounded sense of purpose for living, learning, and leading in the modern world that is replete with uncertainty. In general, the institutional strategic planning process should help in facilitating the phases and points of progress of students, particularly those who may be higher risk and lower income.

Students should have a clear understanding early in the process of their mission and the institution's mission to formulate a mutual strategic vision being successful during the higher education experience. Both students and institutions should clarify values and direction to build on mutual reward. Institutions might also consider how to measure goals, learning objectives, and performance targets, given demographic shifts in student populations that could affect enrollments from recent modifications in federal and state higher education policies regarding financial aid. Originating from institutional mission and vision statements, students need to set objectives and performance targets that may be monitored by traditional measures such as class assignments, term papers, and examinations. Students need to set realistic performance targets for themselves while understanding the elements in the environment that may impact their success (support from home, funding, work, friends, and remedial and developmental needs, etc). Institutions should establish strategies or steps on how to achieve the targeted results that are purposeful and deliberate actions. Institutions understand that adjustments must be made during the process to address unanticipated developments that can arise internally and externally. By also embracing and employing the EMPOWERFUL INFORMATICS constructs of management of knowledge, leadership development, and action research, institutions can help students increase the probability of meeting their short-term and long-term educational objectives by executing strategies and allocating resources that are critical to student success and educational achievement. The institution's evaluation of performance must be continuous, understanding the impact of new developments internally on campuses and externally in neighborhoods with lower-income families and students and of changing conditions, circumstances, and consequences in the world's economic environment.

VIII. COMMUNITY COLLEGE PURPOSE, SCOPE, AND MISSION

The American community college has successfully served a broad role in the higher education of the nation's youth, adults, families, and communities. In the *American Community College*, Cohen and Brawer (1989), cite curricular functions such as "academic transfer preparation, vocational technical education, continuing education, remedial education and community service" (pg. 16). Gleazer (1980) in *The Community College: Values, Vision and Vitality*, similarly stated "characteristically, questions about community college priorities often produce response in terms of programs - college transfer, occupational, or remediation" (pg. 5). This concluding chapter of commentary will focus on the "articulation" function of the community college by identifying three accessible "pivotal points" for students at high school and college levels. These points include the dual credit option, the tech prep option, the college transfer option we discussed earlier, and others that are emerging in the community college sector as the result of changing and emerging workforce needs. All of these optional points should be discussed by families concerning college choices, alternatives and offerings. Specifically, that we will describe, in detail for this concluding chapter, strategic ways in which vertical articulation between secondary and post-secondary institutions can be facilitated with the community college serving as the intermediary liaison and/or credit offering agent. Opportunities to articulate, as well as matriculate, include dual credit, tech prep, dual enrollment and articulation agreements between community colleges and four universities and colleges. These pivotal points can serve as educational options for families considering community colleges and making decisions about their careers, academic preparation and personal development. They also provide the basis for academic planning by high school, college and university educators. We should define "articulation" and "pivotal" here for our readers. Articulation, as defined by Webster's *New Collegiate Dictionary* is the action or manner of joining or interrelating. But in terms of forming or strengthening lines of communication, building bridges, enhancing community interest it is much more. "Pivotal" defined in the *Oxford American Dictionary* is a central point or shaft on which something turns or swings. Both of these complementary definitions describe the historical and present activities of the American community college. Cohen and Brawer (1989) define articulation as "the movement of students - or more precisely, the student's academic credits - from one school to another ... it covers students going from high school to college; from two-year colleges to universities and vice-versa ... the concept includes admission, exclusion, readmission, advising, counseling, planning, curriculum and course and credit evaluation." President Barack Obama, the Lumina Foundation, The National Articulation and Transfer Network (NATN), and many other organizations have been strong advocates, proponents and supporters of two plus two institutional arrangements in response to growing family needs, economic shifts, and emerging workforce demands.

The type of articulation being detailed in this supports nation-wide call for promotion of increased cooperation between secondary schools (high schools and vocational technical centers) and institutions of higher education including two-year community colleges and four-year colleges/universities. This call is made at a time when there are wide-spread concerns among educators, politicians and social scientists about global workforce readiness. Most states encourage efforts to increase the access of able high school students to the educational resources of higher education. Students can matriculate from high school and community college to premier institutions of higher education such as University of California, Princeton, Howard, Rutgers and Yale. “You can get there from here” is a common theme expressed by community college presidents during recruitment campaigns and graduation ceremonies. This is particularly relevant as the United States continues to experience increases in college enrollment. According to the US Department of Education in their “Mini Digest” of Education Statistics (1993), “Of the 1993 students, more than 9 million attended 4-year schools and nearly 9 million attend two-year schools” (pg. 16). Articulation with four-year colleges/universities ideally enables students to make transitions from the two-year colleges to the four-year institutions. Articulation agreements among the school’s supplements and augments the efforts of the high schools to provide appropriate educational experiences for its students. Community college articulation agreements with secondary schools gives the community colleges the opportunity to enhance their image as a provider of higher educational services to be broad segments of the local population which is part of the overall mission of a community college – to serve the community.

The Pivotal Point of Dual Credit and Admissions

Woodbury (1989) in *Enhancing Articulation and Transfer*, recognized that “since the inception of community colleges, four-year colleges and universities – transfer institutions have accepted the graduates of two-year colleges ... dual admission has infinite benefits for the students” (pg. 7 and 11). Dual credit is a tremendous opportunity for high school students to earn high school and college credits for courses being taken at their high school, taught by a high school teacher and needed to satisfy high school graduation requirements. The bonus is that the students are also earning college credits for the courses. Dual credit is a joint enrollment cooperative program between participating high schools and a community of four-year college or university. Students in dual credit programs experience many benefits. They will:

- Enrich and broaden their education experiences;
- Be provided with a stimulating challenge;
- Obtain practice with skills they will need for success in college;
- Accumulate, without cost, college credits that may be applied towards a college degree, although no guarantee is offered that other colleges/universities will accept the credits;
- Increase their chances of being admitted to a college with competitive admissions.

Selected high school students can take specific courses at their high school and can jointly enroll for that course by both the high school and the college. Students can receive dual, both high school and college, credit for their work. Grades and credit can be recorded on a permanent college transcript and held until the student graduates from high school or reaches 18 years of age. During the academic year, the students are expected to meet the objectives of both the high school and the college courses. Students are selected by the high school administration and are generally seniors who are in an Advanced Placement or Honors class. The instructors are commonly high school teachers selected by the high school administration. In most instances, a master’s degree in the specific academic area to be taught is required of the instructor. In some instances, the high school instructors are also college adjunct professors and are familiar with college procedures. Each high school teacher, however, can work closely with their college counterpart to ensure that students receive the same material whether it is taught at the high school or at the college. The college professor can provide a course syllabus, sample tests, text and criteria for grading to insure comparability of student performance. Each semester the instructor is expected to meet the college academic calendar requirements regarding submission of grades.

College personnel may also make scheduled visits to observe dual credit classes being taught at the high school. This gives college administrators the opportunity to evaluate the program, review examinations, student projects and reports and to discuss progress or problems the students or instructors may be experiencing. It is also a good opportunity to remind students how to go about having the colleges send a copy of their college transcript to colleges/universities that students have applied to for admission. In many dual credit programs, high school students may visit the college campus at least once a semester to sit in on the college's class. Additionally, the students are expected to visit the college to register for their class(es). During the registration process, students receive a brief college orientation, tour the campus and receive library cards and student's ID's. Since they are considered to be part-time college students, they are eligible to use the college library, computer facilities; counseling center and participate in student activities. Students with exemplary academic performance may choose to matriculate to prestigious colleges and universities. The dual credit program is a foundation and can serve as a "pivotal point" into a student's long-term educational plans and career development.

The Pivotal Point of Tech Prep

Two Plus Two Tech Prep is a collaborative effort of secondary schools, community colleges and business and industry. It has been called a revolution in American educations because the concept is rapidly spreading to schools in every county in every state in the country. Those of us in education, know that things often don't happen quite this quickly. The Tech Prep movement is impacting especially on students who are not in a traditional college prep track. It affects students who will now have the opportunity to receive a technical and academic education that will enable them to be better and more employable in areas that have been designated by the US Department of Labor as "Demand Occupations." This helps to ensure that there will be employment for graduates of the program. The goal of Tech Prep at many county or community colleges and throughout the United States is to provide education and career training to the a percentage of all high school graduates who do not plan on attending college to receive a baccalaureate degree. The program begins in the last two years of high school and culminates with an Associate in Applied Science degree from a two-year college – hence the name – *Two Plus Two Tech Prep*. *Hull and Parnell (1991) in Tech Prep Associate Degree: A Win/Win Experience* outlines the following wide range of benefits of Tech Prep (TPAD):

"Students will develop basic skills and knowledge while obtaining a first-rate technical education. They will develop the competence to cope with a fast-changing modern life...and do that with confidence. **Employers** will win by obtaining a better educated worker than ever before. And skilled worker shortages will be alleviated as the TPAD program becomes widely operational across the country in high schools and colleges. **High Schools** will win because more students will stay in school to complete their high-school education, and more students will find satisfaction in their courses of study. **Colleges** of all kinds will win because entering students will be better prepared. Because colleges will spend less on remedial and developmental education programs, they will be able to spend more on increasingly sophisticated technical programs. **Communities and states** will win because cooperation at different levels of education will eliminate program duplication, provide for greater efficiency, and more fully develop the human resources of each region ... Finally, Americans will certainly win by the development of a world-class workforce that will outwork, out produce, and outsmart the competition" (pg. 29). Intensive curriculum review is necessary in the planning process of this program in order for it to reach an articulation stage. Secondary school teachers meet with college professors to review and frequently revise curriculum in order to identify and eliminate duplication. The final result enables a secondary school student to take courses at the secondary school for which they receive community college credits. Upon enrolling at a community college, students are able to take a more advanced course as they have already mastered the competencies required in the more basic course. Students are frequently required to have the written recommendation of the subject area teacher and a grade of a least and 80 in order to receive credits. They are typically required to meet the admission requirements of college and may have to take the basic skills placement test. If there is a need for remediation or developmental instruction, students must satisfy these requirements before Tech Prep college credit is awarded. Tech Prep students are typically pursuing degrees in areas for which jobs exists and because business and industry are involved with the program, employment linkages already exist.

The Pivotal Point of Articulation and Transfer

Margaret Mead was probably thinking more globally when she said, “Never doubt that a small group of thoughtful, committed citizens can change the world; indeed, it’s the only thing that ever does.” Her comment however can apply to articulation. It takes tremendous effort. Few realize the effort but those that do are appreciative. Articulation agreements between the high school and community college or the community college and the four-year college or university provide students with a planned procedure and process for completing an academic program. Smith (1982) in *Improving Articulation and Transfer Relationships*, suggested “articulation is a process in which the specific tasks are divided between two administrative offices that have been distinguished by a high level of interoffice communication and cooperation” (pg. 96). Each agreement goes through an evolution before the final contract comes to fruition. Initially, a contact is made by either a community college staff member (sometimes based on the request of a professor) and a call, or letter is made to the four-year college or university. Catalogues, descriptions and syllabi are exchanged. A tentative agreement is drafted and distributed among professors, department chairs, deans, vice presidents, etc...Everyone has an opportunity to react, edit, and offer suggestions. The final agreement is signed and distributed. The authors of this commentary have negotiated and finalized many such agreements. Examples of articulation can be found at all over the United States. A direct result of developing articulation agreements with the schools many county and community college graduates transfer to is “transfer day,” which have developed for many decades. Representatives from universities and colleges are invited to visit the campuses. Students receive a letter of invitation asking them if they would like to participate in transfer day, during which time a representative from the college (es) of their choice will review their application packet and transcript and make an on the spot decision regarding the student’s admissibility. If a student is seeking to enter a program that is already filled (or the student’s GPA is low), the representative will offer a program that the student qualifies for. Thus, rather than receiving a letter of rejection, if a student applied in the traditional manner, the student is offered an option. At many transfer days students all received an offer to attend one or more of the three colleges in attendance. Some students may receive “conditional acceptance” pending receipt of additional information, such as the grades for the upcoming semester or a transcript from another college. Prior to transfer day, workshops are typically held at the colleges for those wishing to attend. During the workshop, assistance is given in completing the application, advise given about questions to ask, financial aid information is shared and students are able to talk with counselors about their concerns or nervousness about the interview. Families should be encouraged to participate collectively, which is one of the common advocating threads in this commentary --- make going to going a family affair! There’s nothing quite like seeing an apprehensive student arrive and then walk out fifteen minutes later waving a letter of acceptance with his/her family members!

Summary

As advocated by Pincus and Archer (1989) in *Bridges to Opportunity*, “community college administrators, faculty, and counselors should actively promote the transfer option by emphasizing both the intellectual and economic benefits of attaining the bachelor’s degree” (p. 3). Students at the high school and college levels should consider these available “pivotal points” in the American educational pipeline. These points provide opportunity and access to the ongoing process of lifelong learning, development and success. Community colleges should be recognized by Vaughn (1985) in *Issues for Community College Leaders in a New Era*, society needs community colleges to provide opportunity both to young people in traditional programs and to adults with an awakening need for continuing education” (pg.37). The result of dual credit programs, Tech Prep options and two-year transfer opportunities is a human resource contribution to our globally interdependent economy (1994c). In sum, postsecondary education seekers must strategically plan their academic, vocational, and professional journey for both short term job and long-term career lifelong learning

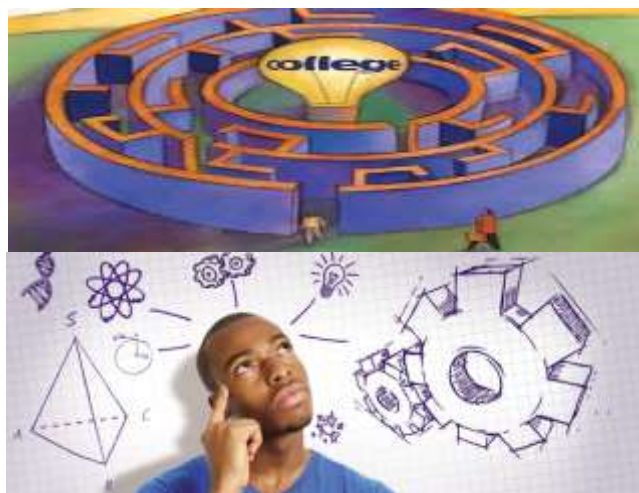
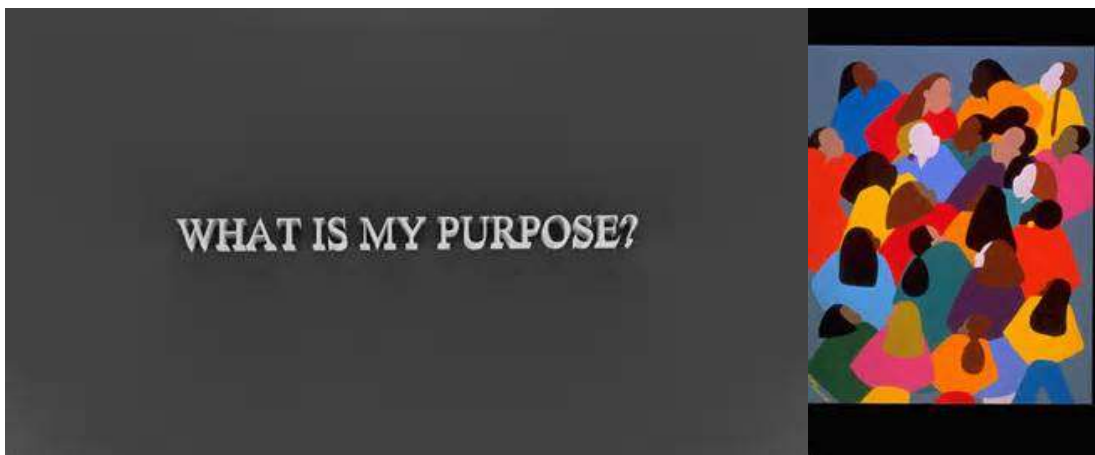


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(Other references are subsumed in the text)

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We are all in between something

Higher learning, as a source for social justice, empowers the righteous reckoning of balance between either or. Somewhere between science and art; between our minds and our souls; between our hearts and the work that leaves the finger tips of our hands is the resolve, the result, the renewal, and the renaissance for our real greater purpose. - JMS

