

PRE-PUBLICATION DRAFT -- Please do not quote or circulate without permission

To appear in a special volume of the International Journal of Chinese Education. H. Coates, Ed.

**Accounting for Student Success: Academic and Stakeholder Perspectives That Have
Shaped the Discourse on Student Success in the United States**

Victor M. H. Borden and Gretchen C. Holthaus
School of Education
Indiana University Bloomington

Abstract

The meaning of student success differs according to the goals, interests and roles among prospective students, their parents and extended family, educators, scholars, employers, legislators and other stakeholders. Despite this wide variation, accountability for student success has been mostly equated with readily available measures like degree completion rates, time to degree and credit accumulation. Recently, especially in the United States, where the student assumes a large cost burden for attending college, interest has increased regarding the amount of debt incurred and the employment and wages obtained post-graduation to enable students to pay off that debt. There are many from within and outside the academy who criticize these simplistic measures and seek evidence about how a college education develops students intellectually and morally, preparing them to lead lives as productive citizens and members of the 21st Century workforce. In this article, we review the key concepts of student success that have emerged from the U.S. higher education research literature, as well as major U.S. policy initiatives related to improving student success. The purpose of this analysis is to develop an organizing framework that enables scholars and policy makers to place their work within a broader context as related to the discourse on student success in the early 21st Century, especially within the United States, but with increasingly common elements internationally.

Keywords: Student Success; Student Development; Student-Institution Fit; Social Capital; Human Capital;

Introduction

In some ways it seems very straightforward. A student attends college, takes the classes necessary to complete a degree program, receives passing grades in those classes, and is awarded a degree or other credential. But what if that credential doesn't lead to a satisfying job or career? What if the employer discovers that, despite having the credential, the graduate does not appear to have basic communication skills or cannot work well with others? What if there are not sufficient jobs available within careers directly related to the field of study?

And what if a student is not able to get into a desired institution or program? Are they any less successful if they discover a passion for another topic of study? Does it make a difference if their major does not lead to a specific career? Finally, what about students who need additional resources or money management skills to ensure a timely graduation? Does their success depend upon the availability of programs that are accessible and provide the needed financial resources, supplemental academic support, and even housing and food security they may require during their education?

What comprises student success is clearly a complicated question. Navigating through considerations of student success requires an organizing framework that identifies important factors and perspectives through which to characterize these significant differences. To develop that framework, we first examine the U.S. higher education research literature to identify which factors and perspectives have received the most attention. We then review conceptions of student success as conveyed through current major policy initiatives in the United States. Finally, we

offer an organizing framework that depicts the major dimensions along which student success has been portrayed.

Academic Perspectives on Student Success

This section reviews significant articulations of student success found in the academic and public policy domains. Given limitations in scope, the intent is not to provide a comprehensive review of these literatures, but rather to pay selective attention to reviews and conceptual framings developed by leading scholars and policy organizations. This review draws from meta-analyses of college student research dating from the 1920s through 2016, along with a major symposium on student success convened in 2006 by the U.S. Department of Education featuring leading higher education scholars.

Postsecondary Education Research

The evidentiary base underlying the development of many of the theories, concepts and measures pertaining to student success is encapsulated within a series of comprehensive reviews of empirical studies measuring how college impacts students. The first of these reviews, *The Impact of College on Students* (Feldman and Newcomb 1969), analyzed over 1500 high quality studies¹ dating back four decades. Pascarella and Terenzini (1991) picked up where Feldman and Newcomb left off in, *How College Affects Students (Volume 1): Findings and Insights from Twenty Years of Research*, covering over 2600 studies conducted in the interim, which they subsequently updated in 2005 with, *How College Affects Students (Volume 2): A Third Decade of Research*, including in their analysis more than 1500 additional studies. More recently, Mayhew, Bowman, Rockenbach, Seifert and Wolniak (2016), produced, *How College Affects*

¹ All of these reviews employed the “weight of evidence approach” that establishes threshold conditions related to methodological soundness for selecting and determining the importance of the evidence produced by each reviewed study.

Students (Volume 3): 21st Century Evidence That Higher Education Works, covering over 1600 studies published since the previous volume and incorporating, for the first time in this series, studies from other countries, albeit mostly first-world, English-speaking countries.

These four volumes summarized nearly 100 years of higher education research. Although more broadly focused on the college student experience, they highlight a set of theories that have underpinned a large portion of the reviewed research. These theories fall into several general categories that we will further consider, including: college student development; student-institution fit; student integration, involvement, effort and engagement; social and cultural capital; and human capital and return on investment.

Student Development Theory

From a student development perspective, success is primarily related to the extent of student growth and development. Intellectual development is the most prominent focus, but identity, character, maturational and ethical development are also considered to be important. Foundational thought leaders associated with the student development perspective during the 1950s to the 1970s include Kohlberg (1970, moral), Chickering (1969, identity), Perry (1971, intellectual and ethical), Heath (1968, maturation), and Super (1955, vocational). Additional theoretical perspectives came about from the 1970's to the 1990's, including formulations by Kolb (1984, experiential learning), Baxter Magolda (1984, self-authoring), Bandura (1989, agency), Kitchener and King (2002, reflective judgment). Integrative approaches also developed, including faith development (Fowler 1981), and transitions (Schlossberg 1981). Social identity theories developed during this time as well, including racial identity (Helms 1985; Cross 1997), ethnic identity (Phinney 1993), sexual identity (D'Augelli 1994) and gender identity (Josselson

1996). These and other student development theories are foundational to the concepts considered in the following sections.

From a development perspective, assessing student success entails measuring how and to what extent students have developed as a direct result of their collegiate experiences. The theories mentioned illustrate the variety of types of changes that students may experience. Additionally, a focus on development requires considering the point in the life cycle when students attend college. Traditionally, this has been at the young adult stage (late teens and early 20s), but increases in enrollment among adults of all ages requires some consideration of how development differs for younger, as compared to older students.

Student-Institution Fit

Theories that focus on the alignment or “fit” between the student and the college environment have had a large impact on the assessment of student success and completion. Student-institution fit theories emphasize the suitability and effectiveness of institutions’ programs, processes, and general climates for the types of students served. Pace and Stern developed a set of tools for assessing students’ need states and the college environment’s ability to meet those needs (Pace and Stern 1958; Pace 1969).

Holland (1973) posited that people search for environments that “fit” their personality so as to attain predictable outcomes with respect to satisfaction and personal development. He described six primary personality types (Realistic, Investigative, Artistic, Social, Enterprising, and Conventional) that shape the choices of the individual related to their occupational careers, including choice of college major. Applying this personality taxonomy to both the student and the environment, Holland’s theory emphasizes the need to concurrently consider diversity of both students and the institutional environments that they engage with.

The student-college fit perspective has more recently been expressed through theories and empirical research related to matching (whether students seek out and enroll in institutions that enroll other students like themselves in terms of academic ability and potential), as well as to public policies related to differentiation of higher education public university systems throughout the United States. For example, Bastedo and colleagues (Bastedo 2009; Bastedo and Gumport 2003; Bastedo and Jaquette 2011) explore how state stratification policies interact with socioeconomic stratification to result in an increasingly inequitable distribution across higher education strata by socioeconomic status, concentrating more affluent, disproportionately white students at well-resourced selective colleges and lower socioeconomic class, disproportionately students of color, at relatively poorly-resourced, broader access institutions. While student-institution fit theories have been useful for exploring macro-level phenomena at universities, research reviewed within the Pascarella and Terenzini (1991, 2005) volumes demonstrates that there are many conditional effects as related to types of students (moderating effects producing interactions) and types of environmental programs and conditions (mediating effects).

Student Integration, Involvement, Effort, and Engagement

Recognizing the somewhat static nature of student-institution fit theories, Spady (1971) and Tinto (1975, 1987, 1993) applied a sociologically-based interactionist theory in developing their “student integration” theories. Tinto distinguished between levels of integration into the academic and social milieus of college and notes how these levels are moderated by student background characteristics and mediated by institutional characteristics. Integration characterizes the degree to which students commit to college-study related goals, as well as to the institution, resulting in their persistence to completion or, alternatively, departure. Although Tinto’s theory has been very influential in research and practice, it has been met with limited

empirical support. Kuh et al. (2006, 12) describe the theory's influential, "near paradigmatic status", as well as the likely reasons for empirical insufficiency. They conclude that the model may include some artificial distinctions that mask subtler and more complex interactions between students and institutions that affect student success.

Pace (1984) shifted his attention away from psychological needs that are not directly observable, to observable student behavior and the quality of effort evident in those behaviors, developing the College Student Experiences Questionnaire (CSEQ). Similarly, Astin's focus turned toward observable behaviors and student expectations and attitudes that affect those behaviors, authoring several seminal books, such as *Four Critical Years* (Astin 1977) and *What Matters in College* (Astin 1993a), that describe more fully the issues and factors that belie a successful student experience. Astin subsequently developed two inter-related theories: the theory of Student Involvement (Astin 1984), that relates levels of involvement in curricular, co-curricular, and extra-curricular activities to student development and success; and the Input-Environment-Output (I-E-O) model (Astin 1993b), that more generally outlines how student input characteristics (academic, demographic, and sociocultural) interact with the institutional environment (students' experience with the programs, activities, resources, and other students and staff) to impact student development and subsequent outcomes of the college experience (such as further education, career, family, and community engagement).

Toward the end of the millennium, George Kuh and colleagues developed the National Survey of Student Engagement (NSSE), formulated out of a collaboration among leading higher education scholars in the late 1990s (Kuh 2003). The development of NSSE was shaped by the work of Kuh and colleagues who had long focused on how institutions can improve conditions for student success (Kuh, Schuh, Whitt, and Associates 1991). Following higher education

scholars' dual focus on the student and institutional factors that promote success, student engagement is defined according to a student component and an institutional component (NSSE, 2018).

The concepts of integration, involvement, and engagement continue to impact policy and practice across postsecondary support programs, institutions, and broader systems of higher education. However, several scholars have recently noted the limitations of these concepts in accommodating students who originate from minority racial, ethnic, and other non-traditionally served populations. For example, Museus and Quayle (2009) note the large number of scholars who have cited cultural biases of Tinto's model as related to the collegiate experience of students of color. More specifically, they question the underlying assumption of Tinto's concepts, "...that students must dissociate from their home cultures and adopt the values and norms of the dominant campus culture to succeed" (Museus and Quayle 2009, 70). They propose, instead, that postsecondary institutions would better serve students by nurturing the development of more culturally inclusive environments.

The concepts of student integration, involvement, effort, and engagement, enhanced by recent formulations related to dominant and non-dominant cultures, continue to have a significant impact on the development of policies and practices related to student success. These concepts acknowledge how student background informs the context that higher education institutions need to understand and accommodate to create environments in which various types of students can thrive.

Social and Cultural Capital

The concepts of social and cultural capital have been employed extensively in the higher education literature to characterize the source of background differences among college students

that are externalities for most of the other theories and concepts described thus far. Two formulations have been most cited. Sociologist James Coleman (1988) defines social capital as the extent to which students understand the norms, sources of authority and controls required to negotiate higher education institutions and environments. This knowledge base is transmitted to students from parents and the other adults in their pre-college lives. In contrast, sociologist Pierre Bourdieu (1986) conceives of economic, social and cultural capital as the various types of assets that dominant class members use to maintain their status. These assets are obtained through family and other relations, and the amount a student brings to college depends on both the size of the student's pre-college network and the amount of capital (economic, social and cultural) among members of that network. Conceptually and empirically, it has been consistently demonstrated that economic, social, and cultural capital are highly inter-correlated with each other and with academic preparedness. While all students hold forms of capital, middle and upper-class forms tend to be relied upon in academic institutions (Yosso 2005).

In the discourse on accountability for student success, economic, social and cultural capital serve as a context for differentiating expectations for student outcomes as related to the types of students served by a postsecondary institution. It is generally expected that open-access institutions, which serve large numbers of students with relatively low capital, will exhibit lower rates of student success (primarily defined as completion) compared to highly selective institutions, which have higher concentrations of affluent, majority racial/ethnic group students. Although such lower expectations may be warranted on an empirical basis, they also promote further inequity in systems, as noted in the studies by Bastedo and colleagues cited earlier.

Human Capital and Other Economic Theories

Economic theories have also shaped the academic literature and the policy discourse as related to college student success. Human Capital theory has been the most influential economic lens applied to student success in college. Becker (1975) posits that individuals act in their own self-interest to forego income opportunities and instead invest their time and money in obtaining non-compulsory, postsecondary education for the anticipated economic and social benefits they expect to accrue as a result of the present investment. This decision-making rationale is generally supported by income and quality of life differentials between college graduates and individuals with lower levels of educational attainment. It is also the basis of a controversial “return-on-investment” perspective that is evident in some consumer-related websites and college rankings (e.g., PayScale.com College ROI Report, <https://www.payscale.com/college-roi>). Although aggregate level data continue to substantiate the positive return of a college degree, there is significant variation in such returns, as related especially to college major and corresponding career choices. For the current purposes, Human Capital theory is noted as a highly impactful concept that aligns with increasing focus on employment and wage outcomes as a significant measure of student success.

The rational decision-making postulate that underpins human capital theory is evident in a wide array of studies regarding student choices and behaviors as related to attending, persisting in and completing higher education programs. Economic approaches have also been used extensively to analyze the general value of a college education (Leslie and Brinkman 1988; Heller 1997), as well as to examine the impact of college spending on student success (Bowen 1980), and the cost effectiveness of programs designed to improve student outcomes (Wellman 2010). What is characterized as “return on investment” as a student-focused economic approach,

becomes “cost effectiveness” when applied at program, institution, and higher levels of organization.

The 2006 National Symposium on Student Success

The impact of these selectively reviewed psychological, sociological and economic theories as related to student success is highlighted by a set of review papers commissioned for a *National Symposium on Student Success*. The symposium was sponsored by the U.S. Department of Education’s National Postsecondary Education Cooperative (NPEC) as part of its mission to promote the quality, comparability, and utility of data and information that support policy development at the federal, state, and institution levels. Included within these papers (available publicly at <https://nces.ed.gov/npec/papers.asp>) are five literature reviews (Braxton 2006; Kuh et al. 2006; Perna and Thomas 2006; Smart, Feldman and Ethington 2006; and Tinto and Pusser 2006), a synthesis of the findings of those reviews (Hearn 2006), and a report on the themes and findings of the ensuing symposium (Ewell and Wellman 2007).

The National Symposium on Student Success was held on November 1-3, 2006 in Washington, DC, with a series of panels to debate the substance and findings of the reviews with a primary focus on how they may inform policy and practice at the institutional, state and federal levels. Peter Ewell and Jane Wellman (2007) subsequently produced a report providing a thematic synthesis of the commissioned papers and discussions to distill conclusions in relation to moving forward constructively. Ewell and Wellman describe a set of gaps that require priority attention, parsing them into four categories:

The gaps are quantitative (postsecondary access and degree attainment are not growing fast enough to meet population growth or to maintain international economic competitiveness), qualitative (the learning outcomes of graduates are not what society

needs them to be, either in basic academic areas or in workforce readiness), occupational (too few professionals are being produced to meet needs for skilled workers), socioeconomic (racial and economic disparities are not being closed), and financial (problems of affordability are growing, and there are greater disparities between institutions in funding adequacy) (4).

Ewell and Wellman identify as the root of public debate, differences as to what success entails for the student, the institution, and society. They suggest that research has focused more so on the student and institutional perspectives and less so on the societal ones, and call for additional research that galvanizes action.

Perspectives on Student Success in the Public Agenda

In this section, aspects of student success that have received the most resources and attention from non-profit and governmental organizations are considered. As with the previous review of the academic literature, the intent is not to provide a comprehensive review, but rather to illustrate several common themes as to the dimensions of student success that have received the most attention, including college access, affordability, labor market outcomes for Graduates, social mobility, global competition, and well-being.

Access

One common mission related to improving student success is to ensure access to higher education regardless of origin or background. Non-government organizations, such as the Bill and Melinda Gates Foundation, Complete College America, New Profit, The Institute for Higher Education Policy (IHEP), The Institute for College Access and Success (TICAS), and the Lumina Foundation, for example, all have missions focused on reducing barriers to accessing higher education, especially for traditionally underserved populations. Similarly, government

organizations such as the Office for Postsecondary Education, work to “promote and expand access to postsecondary education and increase college completion rates for America’s students” (Office of Postsecondary Education, n.d.). Access has been a longstanding focus of policy initiatives, but as participation has increased, the focus has shifted from access to success and questions about the quality of education received and its value after graduation.

Affordability

Financial support for attending college is the primary objective of federal Title IV programs, which distributed over \$125 billion USD in federal student aid in the Fiscal Year 2016 (US Department of Education 2016). U.S. states mostly fund public institutions through operational allocations (totaling just under \$70 billion USD in Fiscal Year 2016), but they also provide financial aid directly to students, which totaled just under \$10 billion USD in FY16 (State Higher Education Officers Association 2017). The Institute for College Access and Success (TICAS, <https://ticas.org/>) conducts annual projects to reduce the student debt burden, simplify the process for obtaining federal aid, and provide researchers and public policy-makers with national and institutional data that links information about affordability to information about diversity and student outcomes.

Labor Market Outcomes

There has been an increased focus in recent years on the labor market outcomes of a college education. The Bill and Melinda Gates Foundation, for example, defines their focus in the United States as “ensuring that all students graduate from high school prepared for college”, having “an opportunity to earn a postsecondary degree with labor-market value” (<https://www.gatesfoundation.org/What-We-Do>). The government also works to ensure that degrees earned hold merit through the use of such programs as Gainful Employment, which has

required universities to demonstrate positive outcomes for their graduates to continue to receive federal aid money.

An additional NGO, Jobs for the Future, aims to bridge education and work to increase economic mobility to strengthen the economy (<http://www.jff.org/about-us>). They also focus on helping students earn postsecondary credentials with high labor market value. Another organization, CareerOneStop.org, is sponsored by the U.S. Department of Labor and provides data on average earnings by career and educational attainment levels.

Social Mobility

As the value of postsecondary education seems to be ever-rising in the United States, advocacy organizations have turned their focus to closing the achievement gaps among first-generation, low-income, and minority students. One innovative organization working to improve social mobility is The Equality of Opportunity Project through the Stanford Opportunity Lab (<http://www.equality-of-opportunity.org/>). The project's mission is to understand the key determinants of intergenerational mobility and to develop policies that empower low-income families to rise out of poverty. Similarly, the organization, Complete College America (<https://completecollege.org/>), works to close the attainment gap for postsecondary education among traditionally underrepresented populations.

Global Competitiveness

Further broadening this definition, some organizations define student success in terms of global competitiveness in the labor market. The Lumina Foundation (<https://www.luminafoundation.org/about>), for example, intends to “prepare people for informed citizenship and for success in a global economy.” Similarly, the Office for Postsecondary Success (<https://www2.ed.gov/about/offices/list/ope>) works to “broaden global competencies

that drive the economic success and competitiveness of our Nation.” As the U.S. no longer produces the highest proportion of college graduates in the world (Schleicher 2012), pressure to keep pace with rising global graduation rates is evident. While increasing postsecondary achievement rates is a noble goal, other countries that have experienced success in this area have also seen some negative impacts as well. For example, in South Korea, where college attainment rates currently lead the world, graduates have struggled to find full-time jobs that their degrees have prepared them for (Kim and Park 2006). Additionally, mental health among students in South Korea may also suffer. While pressure to succeed academically causes 80% of students to pursue college, this pressure may lead to an increased risk of suicide, which is the leading cause of death among 9-24 year-olds (Hunt 2015).

Well-Being

While there appears to be a growing movement toward considering student well-being as a measure of student success, these efforts have not yet been fully realized. Groups such as the National Association for Student Affairs Professionals in Higher Education (NASPA) have developed tracks interested in the study of student well-being in college in recent years. Economic outcomes that may increase graduates’ well-being are reported from government organizations such as the National Center for Education Statistics, and NGOs such as the Georgetown Center on Education and the Workforce (<https://cew.georgetown.edu/>). Higher incomes and lower unemployment rates, for example, are reported among college graduates. Direct measures of well-being do not appear to be as readily collected, however. Many questions have been left unanswered regarding the personal development of students that occurs as a result of postsecondary education. Outcomes such as the formation of one’s character or gaining a

sense of agency through the college experience have not frequently been incorporated into efforts to assess the impact of college within the policy-making sphere.

One initiative that has evaluated measures of well-being among college graduates is the Gallup-Purdue Index (Dugan and Kafka 2014). Findings from their study of well-being among Americans demonstrate that college graduates with higher debt loads are more likely to suffer health problems and are less likely to build wealth. The National Survey of Student Engagement similarly measured financial stress among college students in an experimental dataset in 2015. And, The Ohio State University developed an independent, national student financial wellness survey first administered in 2014. The National College Health Assessment evaluates broader measures of health, including topics such as alcohol and tobacco use, and mental health (http://www.acha-ncha.org/pubs_rpts.html). Efforts to measure overall well-being among college graduates are still limited, however.

Dimensions of Student Success

The academic literature and policy initiatives reviewed in this article describe the complexity of student success considerations. From these reviews, we have gleaned three critical dimensions that define the landscape of student success. Considered together, the three dimensions provide an organizing framework against which any particular study or policy effort can be positioned and its limitations noted.

Dimension 1: The Student Spectrum: Economic, Social and Cultural Capital

Given persisting gaps in the success rates between traditionally underserved students (those with low economic, social and cultural capital) and high achieving students from affluent, well-resourced backgrounds, it is important to contextualize research, policy and program development according to the different needs of these groups. For example, elite learners tend to

Policy perspectives that focus exclusively on one level can have perverse effects at other levels. For example, the easiest way to improve graduation rates is to become more selective and limit access among traditionally under-represented students. As institutions at the higher levels of selectivity become even more selective, the distribution of students shifts from higher to lower tier institutions. As a result, each institution may improve its respective graduation rate while the aggregate rate remains unchanged or possibly declines, as demonstrated in Table 1. In such a case, performance improves at the institutional level, while more students are denied access to the elite institutions and the state experiences a lower overall graduation rate. The institutions have fulfilled their responsibility by improving, but the state has not fulfilled its more general responsibility to serve its broader goals for educational attainment.

Table 1. Scenario Where Institutional Graduation Rates Increase but the Overall Rate Decreases

Institution	Time Point 1			Time Point 2		
	Cohort	Graduates	Grad Rate	Cohort	Graduates	Grad Rate
A	17,000	16,000	94%	14,000	13,250	95%
B	16,000	13,500	84%	15,000	12,750	85%
C	15,000	11,000	73%	16,000	12,000	75%
D	14,000	9,000	64%	17,000	11,250	66%
Total	62,000	49,500	80%	62,000	49,250	79%

As previously discussed, there are a wide range of actors involved in promoting and measuring student success outcomes. To better conceptualize the differences in responsibilities of these various actors in the U.S. context, a Level of Responsibility dimension is provided in Figure 2 below. It should also be noted that the primary focus of accountability in the United States has been at the institution, and to some extent, program levels (through program accreditation). While there has been some notable attention to student responsibility for student success, there has been less accountability for organizations and actors at the higher levels of

can have similar, but not identical, meaning for the student, the institution, or the state.

Institutions can be assessed in relation to the access they provide to diverse students, or their ability to attract elite students. The state's role, as related to student experience, has performance dimensions (policies that improve student transfer), as well as the provision of information to students to facilitate transitions into the workforce.

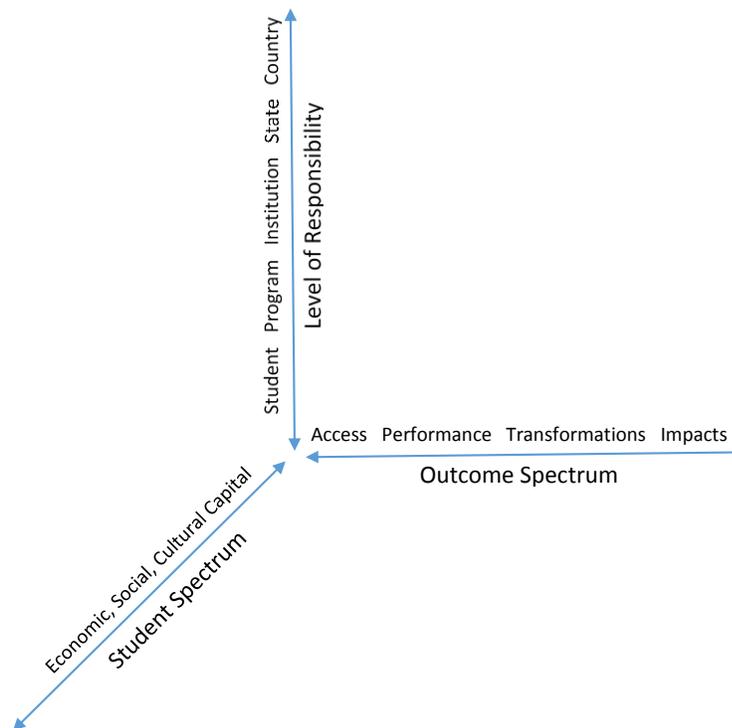


Figure 4. The Student Success Landscape

The dimensions of student success framework provides a basis for evaluating the current state of research and policy with regard to student success. In particular, it can be helpful to identify gaps in coverage for both research and policy efforts. Toward that end, additional analysis can be undertaken at each level of each dimension to understand how postsecondary education currently serves and can better serve a wider range of participants and affected individuals throughout society.

References

- Astin, A. W. 1968. *The college environment*. Washington, DC: American Council on Education.
- Astin, A. W. 1977. *Four critical years. Effects of college on beliefs, attitudes, and knowledge*.
San Francisco: Jossey-Bass.
- Astin, A. W. 1993. *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass.
- Astin, A. W. 1984. Student involvement: A developmental theory for higher education. *Journal of College Student Development* 40(5): 518-529.
- Astin, A. W. 1993a. *What matters in college: Four critical years revisited*. San Francisco: Jossey-Bass.
- Astin, A. W. 1993b. *Assessment for excellence: The philosophy and practice of assessment and evaluation in higher education*. Phoenix: The Oryx Press.
- Astin, A. W., and J. L. Holland. 1961. The Environmental Assessment Technique: A way to measure college environments. *Journal of Educational Psychology* 52(6): 308-316.
- Bandura, A. 1989. Human agency in social cognitive theory. *American Psychologist* 44(9): 1175-1184.
- Bastedo, M. N. 2009. Convergent institutional logics in public higher education: State policymaking and governing board activism. *Review of Higher Education* 32: 209–234.
- Bastedo, M. N., and P. J. Gumport. 2003. Access to what? Mission differentiation and academic stratification in U.S. public higher education. *Higher Education* 46: 341–359.

- Bastedo, M. N., and O. Jaquette. 2011. Running in place: Low-income students and the dynamics of higher education stratification. *Educational Evaluation and Policy Analysis* 33(3): 318–339.
- Baxter Magolda, M. B. 2004. Evolution of a constructivist conceptualization of epistemological reflection. *Educational Psychologist* 39(1): 31-42.
- Becker, G. S. 1975. *Human capital: A theoretical and empirical analysis with special reference to education*. New York: National Bureau of Economic Research.
- Bill and Melinda Gates Foundation. n.d. Gates foundation announces \$9 million in grants to support breakthrough learning models in postsecondary education. *GatesFoundation.org*. <https://www.gatesfoundation.org/media-center/press-releases/2012/06/gates-foundation-announces-grants-to-support-learning-models> (accessed May 2, 2018).
- Borden, V. M. H. 2011. Accountability for student learning: Views from the inside out and the outside in. *AlterNation* 18(2): 317-342.
- Bourdieu, P. 1986. The forms of capital. In *Handbook of theory and research for the sociology of education*, ed. J. G. Richardson, 241-258. New York: Greenwood Press.
- Bowen, H. R. 1980. *The costs of higher education: How much do colleges and universities spend per student and how much should they spend?* San Francisco, CA: Jossey-Bass.
- Braxton, J. M. 2006. Faculty professional choices in teaching that foster student success. In *Spearheading a dialog on student success*, Report commissioned for the National Symposium on Postsecondary Student Success. Washington DC: National Postsecondary Education Cooperative. https://nces.ed.gov/npec/pdf/Braxton_Report.pdf (accessed May 2, 2018).
- Chickering, A. W. 1969. *Education and identity*. San Francisco: Jossey-Bass.

- Coleman, J. S. 1988. Social capital in the creation of human capital. *American Journal of Sociology* 94: 95-120.
- Cross, W. E. 1997. The psychology of nigrescence: Revising the Cross model. In *Handbook of multicultural counseling*, eds. J. Ponterotto and J. Casas, 93-122. Thousand Oaks, CA: Sage.
- D'Augelli, A. R. 1994. Identity development and sexual orientation: Toward a model of lesbian, gay, and bisexual development. In *Human diversity: Perspectives on people in context*, eds. E. J. Trickett, R. J. Watts, and D. Birman, 312-333. San Francisco: Jossey-Bass.
- Devaney, M. and W. Weber. 2003. Abandoning the public good: How universities have helped privatize higher education. *Journal of Academic Ethics* 1(2): 175-179.
- Dugan, A. and S. Kafka. 2014. Student debt linked to worse health and less wealth. *Gallup News*, Aug 7. <http://news.gallup.com/poll/174317/student-debt-linked-worse-health-less-wealth.aspx> (accessed May 2, 2018).
- Ewell, P. and J. Wellman. 2007. Enhancing student success in education: Summary report of the NPEC initiative and National Symposium on Postsecondary Student Success. In *Spearheading a dialog on student success*, Report commissioned for the National Symposium on Postsecondary Student Success. Washington DC: National Postsecondary Education Cooperative. https://nces.ed.gov/npec/pdf/Ewell_Report.pdf (accessed May 2, 2018).
- Feldman, K. A., and T. M. Newcomb. 1969. *The impact of college on students*. San Francisco: Jossey-Bass.
- Fowler, J. W. 1981. *Stages of faith development: the psychology of human development and the quest for meaning*. San Francisco: Harper and Row.

- Hearn, J. C. 2006. Student success: What research suggests for policy and practice. In *Spearheading a dialog on student success*, Report commissioned for the National Symposium on Postsecondary Student Success. Washington DC: National Postsecondary Education Cooperative. https://nces.ed.gov/npec/pdf/synth_Hearn.pdf (accessed May 2, 2018).
- Heath, D. H. 1968. *Growing up in college: Liberal education and maturity*. San Francisco: Jossey-Bass.
- Heller, D. 1997. Student price response in higher education: An update to Leslie and Brinkman. *The Journal of Higher Education* 68(6): 624-659.
- Helms, J. E. 1985. Toward a theoretical explanation of the effects of race on counseling: A Black and White model. *The Counseling Psychologist* 12(4): 153-165.
- Holland, J. L. 1973. *Making vocational choices*. Englewood Cliffs, NJ: Prentice-Hall.
- Hunt, J. G. 2015. Suicide mortality among students in South Korea: An extended discussion. *International Forum* 18(2): 105-120.
- Josselson, R. E. 1996. *Revising herself: The story of women's identity from college to midlife*. New York: Oxford University Press.
- Kim, A. E. and I. Park. 2006. Changing trends of work in South Korea: The rapid growth of underemployment and job insecurity. *Asian Survey* 46(3): 437-456.
- King, P. M. and K. S. Kitchener. 2002. The reflective judgment model: Twenty years of epistemic cognition. In *Personal epistemology: The psychology of beliefs about knowledge and knowing*, eds. B. K. Hofer and P. R. Pintrich. Mahwah, NJ: Lawrence Erlbaum Associates.

- Kohlberg, L. 1970. Stages of moral development as a basis for moral education. In *Moral education*, eds. C. Beck and E. Sullivan. Toronto: University of Toronto Press.
- Kolb, D. A. 1984. *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Kuh, G. D. 2003. What we're learning about student engagement from NSSE: Benchmarks for effective educational practices, *Change: The Magazine of Higher Learning* 35(2): 24-32.
- Kuh, G. D., J. Kinzie, J. A. Buckley, B. K. Bridges, and J. C. Hayek. 2006. What matters to student success: A review of the literature In *Spearheading a dialog on student success*, Report commissioned for the National Symposium on Postsecondary Student Success. Washington DC: National Postsecondary Education Cooperative.
https://nces.ed.gov/npec/pdf/kuh_team_report.pdf (accessed May 2, 2018).
- Kuh, G., J. Schuh, E. Whitt and Associates. 1991. *Involving colleges: Successful approaches to fostering student learning and development outside the classroom*. San Francisco: Jossey-Bass.
- Leslie, L. and P. Brinkman. 1988. *The economic value of higher education*. New York: Macmillan.
- Lumina Foundation. n.d. About Lumina Foundation. <https://www.luminafoundation.org/about> (accessed May 2, 2018).
- Marginson, S. 2016. *Higher education and the common good*. Melbourne, AU: Melbourne University Press.
- Mayhew, M. J., N. A. Bowman, A. N. Rockenbach, T. A. D. Seifert, and G. C. Wolniak. 2016. *How college affects students (Volume 3): 21st Century evidence that higher education works*. San Francisco: Jossey-Bass.

- Murray, H. A. 1938. *Explorations in personality*. New York: Oxford University Press.
- Museus, S. D. and S. J. Quaye. 2009. Toward an intercultural perspective of racial and ethnic minority college student persistence. *Review of Higher Education* 33(1): 67-94.
- NSSE (National Survey of Student Engagement) 2018. *About NSSE*. Bloomington, IN: IU Center for Postsecondary Research. <http://nsse.indiana.edu/html/about.cfm> (accessed May 2, 2018).
- Office of Postsecondary Education. n.d. Home Page (Office Responsibilities). Washington, DC: US Department of Education. <https://www2.ed.gov/about/offices/list/ope/index.html> (accessed May 2, 2018).
- Pace, C. R., and G. G. Stern. 1958. An approach to the measurement of psychological characteristics of college environments. *Journal of Educational Psychology*, 49(5): 269-277.
- Pace, C.R. 1969. College and University Environment Scales: Technical manual. Princeton NJ: Educational Testing Service.
- Pace, C. R. 1984. *Measuring the quality of college student experiences: An account of the development and use of the College Student Experiences Questionnaire*. Los Angeles, CA: Higher Education Research Institute, University of California, Los Angeles.
- Pascarella, E. and P. T. Terenzini. 1991. *How college affects students: Findings and insights from twenty years of research*. San Francisco: Jossey-Bass.
- Pascarella, E. and P. T. Terenzini. 2005. *How college affects students (Volume 2): A third decade of research*. San Francisco: Jossey-Bass.
- Perna, L.W. 2006 Studying college access and choice: A proposed conceptual model. In *Higher education: Handbook of theory and research (Volume 21)*, ed. J.C. Smart, 99-157. Dordrecht, NL: Springer.

- Perna, L. W. and S. L. Thomas. 2006. A framework for reducing the college success gap and promoting success for all. In *Spearheading a dialog on student success*, Report commissioned for the National Symposium on Postsecondary Student Success. Washington DC: National Postsecondary Education Cooperative.
https://nces.ed.gov/npec/pdf/Perna_Thomas_Report.pdf (accessed May 2, 2018).
- Perry, W. G., Jr. 1971. *Forms of intellectual and ethical development in the college years*. New York: Holt, Rinehart and Winston.
- Phinney, J. S. 1993. A three-stage model of ethnic identity development in adolescence. In *Ethnic identity: Formation and transmission among Hispanics and other minorities*, eds. M. E. Bernal and G. P. Knight, 61-79. New York: State University of New York Press.
- Schleicher, A. 2014. *Education at a glance 2014*. Organisation for Economic Co-operation and Development. http://www.oecd.org/unitedstates/United_States-EAG2014-Country-Note.pdf (accessed May 2, 2018).
- Schlossberg, N. K. 1981. A model for analyzing human adaptation to transition. *The Counseling Psychologist* 9(2): 2-18.
- Smart, J. C., K. A. Feldman, and C. A. Ethington. 2006. Holland's theory and patterns of college student success. In *Spearheading a dialog on student success*, Report commissioned for the National Symposium on Postsecondary Student Success. Washington DC: National Postsecondary Education Cooperative. https://nces.ed.gov/npec/pdf/Smart_Team_Report.pdf (accessed May 2, 2018).
- Spady, W.G. 1971. Dropouts from higher education: Toward an empirical model. *Interchange*, 2(3): 38-62.

- State Higher Education Executive Officers (SHEEO). 2017. SHEF FY 2016: *State higher education finance (SHEF)*. Boulder CO: State Higher Education Executive Officers.
http://www.sheeo.org/sites/default/files/project-files/SHEEO_SHEF_2016_Report.pdf
 (accessed May 4, 2018).
- Stephens, N. M., S. A. Fryberg, and H. R. Markus. 2010. When choice does not equal freedom: Analysis of agency in working-class American contexts. *Social Psychological and Personality Science* 2(1): 33-41.
- Super, D. E. 1953. A theory of vocational development. *American Psychologist*, 8(5): 185-190.
- Tinto, V. 1975. Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research* 45: 89-125.
- Tinto, V. 1987. *Leaving college*. Chicago: University of Chicago Press.
- Tinto, V. 1993. *Leaving college: Rethinking the causes and cures of student attrition (2nd ed.)*, Chicago: University of Chicago Press.
- Tinto, V., and B. Pusser. 2006. Moving from theory to action: Building a model of institutional action for student success. In *Spearheading a dialog on student success*, Report commissioned for the National Symposium on Postsecondary Student Success. Washington DC: National Postsecondary Education Cooperative.
https://nces.ed.gov/npec/pdf/Tinto_Pusser_Report.pdf (accessed May 2, 2018).
- U.S. Department of Education. 2016. *Federal student aid, FY 2017 annual report*. Washington, DC. https://studentaid.ed.gov/sa/sites/default/files/FY_2016_Annual_Report_508.pdf
 (accessed May 2, 2018).

Voices of Youth. 2011. Student suicides in South Korea. *La Voix Des Jeunes*.

<http://www.voicesofyouth.org/fr/posts/student-suicides-in-south-korea> (accessed May 2, 2018).

Wellman, J. V. 2010. Connecting the dots between learning and resources. *NILOA Occasional Paper No. 3* Urbana, IL: University of Illinois and Indiana University, National Institute for Learning Outcomes Assessment.

<http://www.learningoutcomeassessment.org/documents/Wellman-Occasional%20Paper%203%2010-20.pdf> (accessed May 2, 2018).

Yosso, T. J. 2005. Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race, Ethnicity and Education* 8(1): 69-91.