Changing Demographics and Needs Assessment for Learning Centers in the 21st Century

Emily Miller Payne, Russ Hodges, and Elda Patricia Hernandez
Texas State University

Changing Demographics and Needs Assessment for Learning Centers in the 21st Century

Students entering postsecondary education embody America's growing diversity. Rapid demographics shifts and changing student attendance patterns pose new challenges for higher education. Enrollment trends vary across states and regions with some areas seeing increased student populations while others are experiencing declining enrollments (Center for Public Education, n.d.). Institutions must transform and adjust to accommodate the dramatic shifts in student demographics. Learning centers that offer best-practice interventions will contribute positively to students' retention and certificate or degree completion. This chapter provides insights into student attendance patterns, first through the lens of high school graduation rates, then through future college enrollment trends, and finally through college completion. Demographic research findings support conducting needs assessments to meet the emerging needs of our changing student demographics.

High School Graduation Rates

Approximately 50 million students entered elementary and secondary schools for the fall 2014 term at an estimated $619 billion cost for the year with a projected expenditure per student of $12,281 (U.S. Department of Education, 2014). Will they succeed and graduate? The trend is moving in a positive direction. In 1940, approximately 25% of the U.S. population 25 years old and over had completed high school compared to 80% in 2000. In 2011, 87.5% of the population 25 years old and over had completed high school. While overall high school graduation rates have steadily increased, the

graduation rates for Hispanics (64.2%) and Blacks (84.4%) were still lower than rates for non-Hispanic whites (87.9%) and Asians (88.6%) in 2011 (Center for Public Education, n.d.).

Trends in immigration and birth rates indicate that soon there will be no one majority ethnic group in the United States—that is, no one group that makes up more than 50% of the total population. As a result, the nation's public high school student population is expected to become more diverse. Projections between 2008 and 2019-20 indicates a 41% increase in Hispanic graduates, a 30% increase in Asian and Pacific Islander graduates, and just under a 2% increase in American Indian and Alaska Native graduates. However, there will be a 12% decline in White non-Hispanic graduates and a 9% decline in Black non-Hispanic graduates (Prescott & Bransberger, 2012). Note that within the next several decades, high school demographic changes are also predicted to vary by state with a few states experiencing swift enrollment expansions greater than 15% (e.g. Colorado, Texas, and Utah) while others will experience enrollment losses of 15% or more (e.g. The District of Columbia, Maine, Michigan, New Hampshire, Rhode Island, and Vermont) (Prescott & Bransberger, 2012). An excellent source for national and state-by-state data, the Western Interstate Commission for Higher Education (WICHE) has produced public and non-public high school graduate predictions for over 30 years. For individual state profiles, visit the WIHCE website (http://www.wiche.edu/).

Postsecondary Enrollment Demographics

Careers that require postsecondary education have doubled over the last 40 years (Carnevale, Smith, & Strohl, 2010). The good news is that more high school students are enrolling in college immediately after high school graduation. In 2012, 66% enrolled in 2- and 4-year institutions immediately after high school graduation compared to 60% in 1990 (Kena, et al., 2014). While the percentage of students entering higher education immediately after high school has increased over the years, the nation is entering a period of modest decline in the total number of overall high school graduates, which is closely tied to declining birth rates in the wake of the Baby Boom Echo. The peak occurred in 2010-11 when total high school graduates from public and nonpublic schools reached 3.4 million. A

2% growth is not expected until 2020-27 (Prescott & Bransberger, 2012).

Even with declining high school graduation rates predicted for the near future, the postsecondary student population is predicted to grow by modest numbers over the coming decade. Some 10.6 million undergraduate students attended 4-year institutions in 2012, while 7.2 million attended 2-year institutions. At 4-year institutions in 2012, some 77% of undergraduate students attended full time, compared with 41% at 2-year institutions (Kena et al., 2014). Demographic researchers have forecasted that between 2012 and 2023, part-time undergraduate enrollment will increase by 17%, a faster increase than the 12% increase projected for full-time undergraduate enrollment (Kena et al., 2014).

Ethnicity, Age, and Gender

Hispanics are the nation's largest minority group at 50.5 million (16% of the U.S. population). In 2012, more high school graduates who are Hispanic (49%) were enrolled in college than Whites (47%) (Lopez & Fry, 2013). The trend for Hispanic postsecondary enrollment is forecasted to continue between 2011-2022, with an increase of 27% (Hussar & Bailey, 2014), and by the middle of the 2020-2029 decade, 1 in 4 college graduates will be Hispanic (Prescott & Bransberger, 2012). As for other groups, between 2011 and 2022, White student enrollment in college is predicted to increase by 7%, enrollment of students who are Black will increase 26%, student enrollment of Asian and Pacific Islanders will increase 7%, and enrollment of students who are Indian and Alaskan Native student will stay the same (Hussar & Bailey, 2014).

The U.S. population has continued to grow older, with many states reaching a median age of over 40 years. Between 2000 and 2010, the population under the age of 18 grew at a rate of 2.6% and even slower for those aged 18 to 44 at 2.6%. However, during that same period, the population aged 45 to 64 has increased 31.5% and those aged 65 and over at 15.1% (Howden, & Meyer, 2011).

In terms of college enrollment in 2012, institutions saw 13 million students under age 25 and 8 million students 25 years old and over. Both the number of students who are younger and older increased between 2000 and 2012 (U.S. Department of Education,

2014). Aud et al. (2011) posited that between 2013 and 2020, college enrollment is projected to increase 5% for 18- to 24-year-olds, 16% for 25- to 34-year-olds, and 17% for students 35 years old and older.

The gender ratio at birth in the U.S. is currently 105 males for 100 females; however, mortality at every age is higher for males. Within our population, this results in more males at younger ages and more females at older ages (Howden & Meyer, 2011). The gender of the college-going population will see the current trend of females outnumbering males in enrollment and completion. In 2011, 45% of women ages 18 to 24 were enrolled in undergraduate or graduate programs, compared with just 39% of men in the same age group. The total number of students who are female earning bachelor's degrees from postsecondary, degree-granting institutions is projected to increase by 10% from 2014 to 2021. In contrast, the total number of students who are male having bachelor's degrees conferred by a postsecondary, degree-granting institution is projected to increase by 5.5% in 2014 to 2021 (National Center for Education Statistics, 2012).

First Generation Students

Students who are low income, first-generation comprise roughly 24% (4.5 million) of the undergraduate population (Engle & Tinto, 2008), and Hispanics account for nearly half (Bell & Bautsch, 2011). Students who are first-generation are not automatically presumed to be underprepared, but many come to college with limited background knowledge about the college culture, and students who are first-generation are less likely to enroll in higher education than students whose parents went to college (Engle & Tinto, 2008; Ward, Siegel, & Davenport, 2012). Previous research has found that students who are first-generation had higher rates of departure through their college years than their counterparts and were less likely to complete their degree programs in a timely manner (Ishitani, 2006). In fact, students who are low-income, first-generation were nearly four times more likely to leave college after their first year than those with neither of these two risk factors (Engle & Tinto, 2008). Bowen, Chingos, and McPherson (2009) found that even when they controlled for students' test scores in reading and math, the graduation rate of students who are first-generation was 18% lower than that of college-goers who are non-first-generation. Studies have

also indicated that students who are female first-generation are more likely to complete college than their male counterparts (DeAngelo, Franke, Hurtado, Pryor, & Trans, 2011).

Student Veterans

The GI Bill has afforded veterans an opportunity to attend postsecondary programs for decades, easing the transition from military life to that of a civilian workforce. Student veteran is defined as "active-duty service members, reservists, members of the National Guard, and veterans" (Queen & Lewis, 2014, p. 1). Ninety-six percent of postsecondary institutions for the 2012-13 academic year reported enrolling students who are veterans, and 82% of these institutions had a point of contact to serve their unique needs (Queen & Lewis, 2014).

The Million Records Project (Cate, 2014) tracked 1 million students who are veterans between 2002 and 2010 and of those 73% were male, 62% were first-generation, and 85% were non-traditional with many student veterans supporting families and juggling employment and school. Despite enrollment interruptions due to military obligations or challenges for those with service-connected disabilities, nearly 52% of student veterans within this study earned a degree or certificate within a 4 to 5-year period. Finally, in 2013, over 1 million student veterans used their GI benefits to pursue postsecondary educational benefits, up from 500,000 in 2009, with expected enrollment estimated to increase by 20% over the next few years (Prins, Spangler, Walser, & Ruzek, 2014).

Student Readiness Estimates

College readiness is a complicated student characteristic to assess. Whether states rely on a single assessment instrument for placement of students who are deemed college ready and placed in college credit courses, or on multiple indicators of preparedness, many other readiness factors must be considered: Point of entry (2-year or 4- year institution, public or private institution), selectivity of the institution, and students' academic goals and fields of study are only a few factors to consider in the projection of college readiness. Interestingly, some research has indicated that students' academic achievement by 8th grade is one of the best predictors of college readiness—even more so than high school achievement (ACT, 2008).

Estimates of readiness, using enrollment in a developmental (also still commonly referred to as remedial) course as a proxy for lack of readiness, can be more complicated as these reports vary tremendously depending upon the source. Attewell, Lavin, Domina, and Levey (2006) found that 58% of students in community colleges enrolled in at least one developmental course, 44% enrolled in one to three developmental courses, and 14% took more than three developmental courses. Aud et al. (2011) reported that 36% of students overall and 42% of students in first-year in community college take at least one developmental course. More recently, *Complete College America's Remediation: Higher Education's Bridge to Nowhere* (2012) reported that more than 50% of students entering 2-year colleges and nearly 20% of those entering 4-year universities are placed in developmental courses. Sparks and Ralph (2013) reported that first-year undergraduate student enrollment rate (2-year, 4-year, public, and private institutions combined) was 26% in 1999-2000, 19% in 2003-04, and 20% in 2007-2008. Thus, using multiple college readiness indicators and those specific to a particular region or institution is best when assessing college readiness.

First-Year Retention and Persistence

A large number of students are not returning to college after their first year. The National Student Clearinghouse Research Center (NSCRC) (2014) defined the college student persistence rate as the percentage of students who return to college at any institution for their second year, while the retention rate is defined as the percentage of students who return to the same institution for their second year. According to NSCRC, the overall persistence rate for college students who enroll first-time has decreased 1.2% since 2009, while the retention rate has remained fairly constant. Of all students who are first-time enrollees and who started in fall 2012, 68.7 % returned to college in fall 2013 with 58% returning to the same institution. Thus, about one in nine students who start college in any fall term transfer to a different institution by the following fall. However, the persistence rate is the worry. Since 2009, persistence rates for students age 20 or under at college entry fell 1.8%. For students age 20-24 at entry, the persistence rate also fell 0.6%; for students over 24 at college entry, the rate fell 1.4%. Students enrolling for their second year are now a prime indicator of college completion (NSCRC, 2014).

Degree Completion

The country's college attainment has steadily declined compared to other nations. In 1990, the U.S. ranked first in the world in 4-year degree attainment among 25-34 year olds. Not so today, as the U.S. ranks twelfth. While half of all people from high-income families from the U.S. have a bachelor's degree by age 25, just 1 in 10 people from low-income families do (Bailey & Dynarski, 2011). With this being said, during the 2014–15 school year, colleges and universities are expected to award 1.0 million associate's degrees, 1.8 million bachelor's degrees, 821,000 master's degrees, and 177,500 doctor's degrees. For the 2012–13 academic year, the average annual price for undergraduate tuition, fees, room, and board was $15,022 at public institutions, $39,173 at private nonprofit institutions, and $23,158 at private for-profit institutions (U.S. Department of Education, 2015). Degree completion predictions are most interesting as the total number of associate's degrees is projected to increase 49% between 2010-11 and 2022-23. The lower cost of attending community college is likely driving this rapid increase. A more modest increase of 17% will occur for bachelor's degree completions over this same period (Hussar & Bailey, 2014).

Needs Assessment of Learning Support

Developmental Education (DE) is at the forefront of many state and federal policy discussions regarding completion rates, funding, and students' preparation for the future workforce (Strawn, 2007). Demographics trends are putting high demands on DE programs nationwide, *Projections of Education to 2019* projected that Hispanics and other minorities enrolled in higher education would increase by 45% from 2008 to 2019 (Hussar and Bailey, 2011). Additionally, Rothkopf (2009) stated that students of color "are not faring as well as others," and "are not returning for second year" (p. 27). Over the years' studies and research have indicated that students who require one or more developmental courses are not prepared for college academically and may lack the skills and mindset to cope with the rigors of college (Conley, 2005). With the projected demographic changes in higher education enrollment comes the obligation to assess the services and programs that the next generation of students will require if they are to succeed.

Assessing the Needs of Next Generation College Students

Regardless of their level of academic and personal preparation, students who enter postsecondary institutions will require myriad of services before they graduate. From the pre-admission phase of completing financial aid forms and applications through advising and course scheduling to final degree audits and graduation applications, most students require assistance from many campus programs. For students who are less academically prepared and who did not pursue a college preparatory track in high school or those whose high school did not offer solid preparatory programs, access to a comprehensive learning assistance program will be critical to their success. The term *learning assistance* refers to services that range from tutoring and Supplemental Instruction to specific academic preparation courses and is the term of choice because it is inclusive of all sorts of supports available to all students (Arendale, 2010).

Existing studies identify a rising population of students in need of an intervention to ensure future success. Some of the studies that inform the field such as *Adult Learners in Higher Education: Barriers to Success and Strategies to Improve Results* (Bosworth et al, 2007), and the *Developmental Education Best Practices for Adult Learners in Higher Education: Barriers to Success* (Texas Higher Education Coordinating Board, 2013), report on the status of enrollments, persistence, and success rates in DE and the need for current and future interventions. Additionally, various studies have identified issues of students placed into a developmental course who are often first-time in college (FTIC), first generation, and non-traditional student population and their needs to their success.

The diverse nature of students in developmental education requires the use of multiple strategies to approach the issues they face. Over the years, Tinto (2012), Casazza and Silverman (1996), Arendale (2010), Boylan (2002), Maxwell (1997), Casazza and Bauer (2006) and others have focused their research in the area of persistence and success of the college student developing a substantial base of knowledge and expertise to cultivate new or existing programming. Research to support students in a developmental course revolves around the programming found in learning assistance and student service programs, to include

Supplemental Instruction, tutoring, college success curriculum, advising, and many other interventions to support student success and persistence. According to Arendale (2010), "…learning assistance bridges access for a more diverse student body" (p. 1), serving students along a "…continuum between novice and master learner" (p. 2).

Research by Alvarez and Risko suggested that "…educating is a process of deliberate intervention in the lives of students to change the meaning of experience. The change that education prompts empowers students to become self-educating; they learn to take charge of their own experience" (2000, p. 207). This information proposed that education is not only a classroom intervention but an experience of change in mindset to promote their success in postsecondary. Learning assistance in most institutions is positioned at the "crossroads of academic affairs, student affairs, and enrollment management" (Arendale, 2010, p. 54) to serve as the "deliberate intervention" to students requiring support. Research recommends employment of learning assistance programs as a part of an institution's plan to address the persistence and student success (Arendale, 2010; Swail, 2004).

As a starting place for improving learning assistance, the field would benefit from an inventory of emerging best practices that would be available to professionals who plan and supervise campus programs. The resource inventory provides a list of existing knowledge and expertise and availability of a services or programming for learning assistance in an institution. These resources can ultimately be potential partners to leverage programming for the students. In the field of learning assistance and persistence there are several researchers who can be a source of expertise to support planning and implementing a program.

According to Boylan, "research over the past 20 years has validated intra-institutional collaboration as an important component of successful developmental programs" (2002, p. 17). However, it is still up to the team of educators and the institution to breathe life into the activities and curriculum for a learning assistance program. Knowing and using the internal resources and expertise of the college is one thing, but tapping into those resources creates

a synergetic approach that is healthy for both the institution and student.

Confirming what most learning assistance professionals have known for decades, Arendale stated that "learning assistance serves only developmental education students is a myth" (2010, p. 2). Learning assistance serves the entire student body and not just a select few which puts the weight of the institution behind it, meaning that more college resources can be either given directly or indirectly to support its success. According to Casazza and Bauer, "In order to provide the most effective assistance, it is necessary to understand the complexity of the situation and to develop both the personal skills and the institutional systems that will help" (2006, p. 14). It is important to recognize that "…understanding how a students' life connects to their circumstances and how that connects to their academic performance" (Casazza & Bauer, 2006, p. 27).

Rich and robust research exists that validates the importance of learning assistance as a model to promote persistence and success, as is the evidence supporting activities such as Supplemental Instruction, tutoring, or specific learning skills. Casazza and Silverman (1996) state "…it is imperative for us to be familiar with a broad range of theories and be willing to synthesize ideas from a variety of perspectives in order to provide an integrated approach to helping students achieve" (p. 35). And, Edgecombe (2011) suggests an approach where students are placed in college-level courses and are provided additional instructional support such as Supplemental Instruction to promote student success (p. 16) are just a few of the resources available to faculty, staff, and administrators of learning assistance programs.

Ideally the mission of learning assistance is the work of developing the talent of students (Astin, 1984). Viewing the field of learning assistance from this viewpoint allows stakeholders to see the field as an investment. As developmental education and learning assistance remain the focus of the policy makers and politics, leadership of higher education is an important key "in facing the challenges of profound change," in which "… there is no substitute for collaboration—people coming together out of common purpose and willing to support one another so all can advance" (Senge, 2000, p. 279).

References

ACT (2008). *The forgotten middle: Ensuring that all students are on target for college and career readiness before high school.* Retrieved from http://www.act.org/research/policymakers/pdf/ForgottenMiddleSummary.pdf

Alvarez, M. C., & Risko, V. J. (2000). Motivation and study strategies. In R. F. Flippo, & D. C. Caverly, (Eds.), *Handbook of college reading and study strategy research* (2nd ed.) (pp. 199-219). New York, NY: Routledge.

Arendale, D. R. (2010). Access at the crossroads: Learning assistance in higher education. *ASHE Higher Education Report, 35*(6). San Francisco, CA: Jossey-Bass.

Astin. A.W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel, 25*, 297-308.

Attewell, P., Lavin, D., Domina, T., & Levey, T. (2006). New evidence on college remediation. *Journal of Higher Education, 77*, 886–924. doi:10.1353/jhe.2006.0037

Aud, S., Hussar, W. J., Kena, G., Bianco, K., Frohlich, L., Kemp, J., & Tahan, K. (2011). *The condition of education 2011* (NCES 2011-033). U.S. Department of Education, National Center for Educational Statistics. Washington, DC: U.S. Government Printing Office.

Bailey, M. J., & Dynarski, S. M. (2011). *Gains and gaps: Changing inequality in U.S. college entry and completion* (Working Paper 17633). Cambridge, MA: National Bureau of Economic Research. Retrieved from http://www.nber.org/papers/w17633

Bell, J. D., & Bautsch, B. (2011). *Improving Latino college completion: What state legislators should know.* Washington, D. C.: National Conference of State Legislatures.

Bosworth, B., Callanhan, A., Choitz, V., Davidson, C., Hoops, J., Kazis, R., & Mcleod, A. (2007). *Adult learners in higher education: Barriers to success and strategies to improve results*. U.S. Department of Labor, Employment and Training Administration, Office of Policy Development and Research by Jobs for the Future, in collaboration with Eduventures and FutureWorks. Retrieved from http://www.jff.org/publications/adult-learners-higher-education-barriers-success-and-strategies-improve-results

Bowen, W. G., Chingos, M., & McPherson, S. (2009). *Crossing the finish line: Completing college at America's public universities*. Princeton, NJ: Princeton University Press.

Boylan, H. R. (2002). *What works: Research-based best practices in developmental education*. Boone, NC: Continuous Quality Improvement Network with the National Center for Developmental Education.

Carneval, A. P., Smith, N., & Strohl, J. (2010). *Help wanted: Projections of jobs and education requirements through 2018*. Retrieved from https://cew.georgetown.edu/wp-content/uploads/2014/12/fullreport.pdf

Casazza, M. E., & Bauer, L. (2006). *Access, opportunity, and success*. Westport, CN: Praeger.

Casazza, M. E., & Silverman, S. L. (1996). *Learning assistance and developmental education: A guide for effective practice*. San Francisco, CA: Jossey-Bass.

Cate, C. A. (March, 2014). *Million records project: Research from student veterans of America*. Student Veterans of America, Washington, DC. Retrieved from http://studentveterans.org/images/Reingold_Materials/mrp/download-materials/mrp_Full_report.pdf

Center for Public Education (n.d.). *The United States of education: The changing demographics of the United States and their schools*. Retrieved from http://www.centerforpubliceducation.org/You-May-Also-Be-Interested-In-landing-page-level/Organizing-a-School-YMABI/The-United-States-of-education-The-changing-demographics-of-the-United-States-and-their-schools.html

Complete College America. (2012). *Remediation: Higher education's bridge to nowhere*. Retrieved from www.completecollege.org/docs/CCA-Remediation-final.pdf

Conley, D. T. (2005). *College knowledge: What it really takes for students to succeed and what we can do to get them ready*. San Francisco, CA: Jossey-Bass.

DeAngelo, L., Franke, R., Hirtado, S., Prior, J. H., & Tran, S. (2011). *Completing college: Assessing graduation rates at four-year institutions*. Los Angeles, CA: Higher Education Research Institute, UCLA.

Edgecombe, N. (2011). *Accelerating academic achievement of student referred to developmental educatio*n. (CCRC) Working Paper No. 30, New York, NY: Community College Research Center, Teachers College, Columbia University.

Engle, J., & Tinto, V. (2008). *Moving beyond access: College success for low-income, first-generation students*. Washington, DC: Pell Institute for the Study of Opportunity in Higher Education.

Howden, L. M., & Meyer, J. A. (2011). *Age and sex composition: 2010 Census briefs* (C201OBR-03). U.S. Department of Commerce, U.S. Census Bureau. Retrieved from http://www.census.gov/prod/cen2010/briefs/c2010br-03.pdf

Hussar, W. J., & Bailey, T. M. (2014). *Projections of educational statistics to 2022 9* (NCES 2014-D51). U.S. Department of Education, National Center for Educational Statistics. Washington, DC: U.S. Government Printing Office.

Ishitani, T. T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *The Journal of Higher Education, 7*7, 861-885. doi: 10.1353/jhe.2006.0042

Kena, G., Aud, S., Johnson, F., Wang, X., Zhang, J., Rathbun, A., Wilkinson-Flicker, S., & Kristapovich, P. (2014). *The Condition of Education 2014* (NCES 2014-083). U.S. Department of Education, National Center for Education Statistics. Washington, DC.

Lopez, M. H., & Fry, R. (2013). *Among recent high school grads, Hispanic college enrollment rate surpasses that of white*s. Pew Research Center Factank: News in the Number. Retrieved from http://www.pewresearch.org/fact-tank/2013/09/04/hispanic-college-enrollment-rate-surpasses-whites-for-the-first-time/

Maxwell, M. (1997). *Improving student learning skills*. Clearwater, FL: H & H.

National Center for Educational Statistics. (2012). *Fast facts: Immediate transition to college*. Retrieved from http://nces.ed.gov/fastfacts/index.asp?faq=FFOption5#

National Student Clearinghouse Research Center (NSCRC) (2014). *First-Year Persistence and Retention Rates by Starting Enrollment Intensity: 2009-2012*. Retrieved from http://nscresearchcenter.org/snapshotreport-persistenceretention14/

Prescott, B. T., & Bransberger, P. (2012). *Knocking at the college door: Projections of high school graduates* (8th ed.). Boulder, CO: Western Interstate Commission for Higher Education. Retrieved from http://wiche.edu/info/publications/knocking-8th/knocking-8th.pdf

Prins, A., Spangler, S., Walser, R., & Ruzek, J. (April, 2014). *Veterans administration campus toolkit handout: Characteristics of Student Veterans*. Retrieved from http://www.mentalhealth.va.gov/studentveteran/docs/ed_todaysStudentVets.html

Queen, B., & Lewis, L. (February, 2014). *Services and support programs for military members and veterans at postsecondary institutions*, 2012-2013. U.S. Department of Education. Washington, DC: National Center of Education Statistics. Retrieved from http://nces.ed.gov/pubs2014/2014017.pdf

Rothkopf, A. (2009). Courageous conversations: Achieving the dream and the importance of student success. *Change, 41*(1), 24-41. doi:10.3200/chng.41.1.24-41

Senge, P. M. (2000). The academy as learning community: Contradiction in terms of realizable future. In A. F. Lucas and Associates (eds.), *Leading academic change: Essential roles for department chairs* (pp. 275 – 300). San Francisco, CA: Jossey-Bass.

Sparks, D., & Ralph, J. (2013, January). *Statistics in Brief: First-year undergraduate remedial coursetaking: 1999-2000, 2003-04, 2007-08* (NCCES 2013-013). National Center for Educational Statistics. Retrieved from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2013013

Strawn, J. (2007). *Policies to promote adult education in postsecondary alignment*. New York, NY: National Commission on Adult Literacy.

Swail, W. S. (2004). *The art of student retention: A handbook for practitioners and administrators*. Austin, TX: Educational Policy Institute.

Tinto, V. (2012). *Leaving college: Rethinking the causes and the cures of student attrition* (2nd ed.). Chicago, IL: The University of Chicago Press.

Texas Higher Education Coordinating Board (THECB). (2013). *Developmental Education Best Practices for Adult Learners in Higher Education: Barriers to Success*. Retrieved from http://www.ntp16.notlb.com/sites/default/files/AVATAR/THECBReportDevelopmentalEducationBestPractices28Jan02013.pdf

U.S. Department of Education, Institute of Educational Sciences, National Center for Education Statistics. (2014). *Fast facts: Back to school statistics*. Retrieved from http://nces.ed.gov/fastfacts/display.asp?id=372

U.S. Department of Education, National Center for Education Statistics. (2015). *Digest of Education Statistics*, 2013 (NCES 2015-011). Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=76

Ward, L., Siegel, M. J., & Davenport, Z. (2012). *First-generation college students: Understanding and improving the experience from recruitment to commencement*. San Francisco, CA: Jossey-Bass.