Student persistence and success in United States higher education: a synthesis of the literature

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Core Definition

'Persistence' in higher education in the United States (US) refers generally to the enrolment patterns of students at specific points within post-secondary institutions. The terms 'persistence' and 'retention' are often used synonymously, but Mortenson (2005) describes the distinction between the two terms as being either a "student-initiated decision" (persistence), or as a reporting and tracking indicator from the "institutional perspective" (retention). A number of indicators are used to track retention from the institutional perspective, including continuous enrolment to the second year of college, length of time to degree, grades, and attainment of a degree (Kuh *et al.*, 2007).

Alternative Definitions

As in the UK, there are many related terms used in the study and application of retention indicators and strategies in US higher education. The federal government (through the US Department of Education) uses the terms 'post-secondary persistence' and 'progress' as a foundational approach to data collection and analysis of student academic progress and enrolment patterns (http://nces.ed.gov/programs/coe/2003/section3/indicator20.asp).

Due to the flexible and often inconsistent way that students move in and out of post-secondary institutions in the US, the study of factors related to retention and success of undergraduate students is complex. Credit hours are generated by accredited institutions (two-year community colleges awarding Associates degrees and four-year colleges and universities awarding Bachelors degrees), and students carry their completed coursework with them from institution to institution. While many students remain at one institution and are continuously enrolled until graduation, a large number of both traditional (those who attend college immediately after high school graduation) and non-traditional students (those who delay attendance for whatever reason) move in and out of formal education according to their academic goals and personal circumstances.

It is recognised that while institutions and other entities report retention and graduate rate information, "the institutional perspective provides only a partial picture of students' success because institutions are rarely able to track students who leave their institution. Calculating graduation rates from the student perspective involves following students throughout the postsecondary system. This approach results in higher graduation rates because some students who begin at one institution earn a degree elsewhere" (NCES, 2009, p. 3). So reporting mechanisms should, but rarely do, take into account the dual perspective related to retention and persistence.
For example, a US Department of Education report from 2003 included indicators of persistence beyond the first institution the student attended.

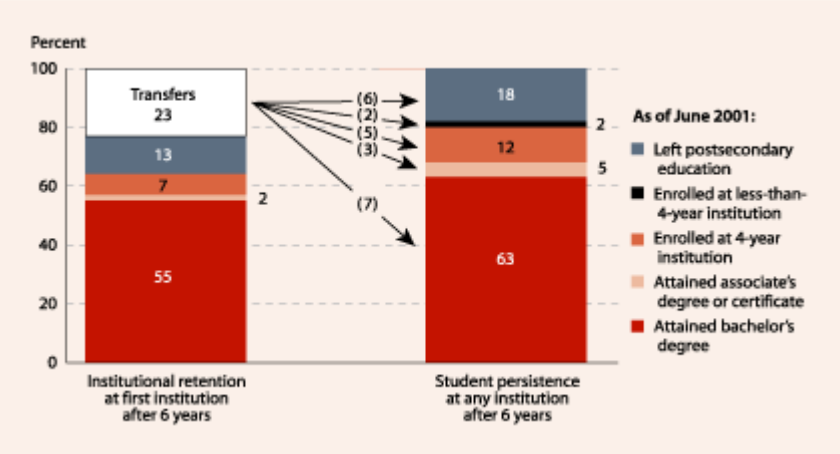

Figure 1: Retention and persistence: Percentage distribution of 1995-96 first-time beginning students at four-year institutions according to their enrolment status or degree attainment at the first and at all institutions

Source: http://nces.ed.gov/programs/coe/2003/section3/indicator20.asp

Typically retention patterns are tracked for cohorts of students using a six-year window from the time of initial enrolment. The chart above summarises the national cohort of students who began college (four-year institutions) during the 1995-96 academic year. A snapshot of those students as of June 2001 reveals that 55% of them remained at their first institution, presumably for all of their college work. Twenty-three per cent transferred out of their original institution. The data from the student persistence perspective provide an interesting look at those transfer students, with results fairly evenly split between three groups: 1) those who attained a Bachelors degree, 2) those who left post-secondary education, and 3) those who were still enrolled at another institution.

Not only are 'persistence' and 'retention' closely related, but a number of other terms are also used within the literature. Berger and Lyon (2005, p. 7) provide the following definitions of the most commonly used variables within the reporting structure:

- 'attrition' – refers to students who fail to enrol at an institution in consecutive semesters;
- 'dismissal' – refers to a student who is not permitted by the institution to continue enrolment;
- 'drop-out' – refers to a student whose initial educational goal was to complete at least a Bachelors degree [or Associates degree, if enrolled at a community college], but who did not complete it;
- 'mortality' – refers to a failure of students to remain in college until graduation;
- 'persistence' – refers to the desire and action of a student to stay enrolled within the system of higher education from beginning year through to degree completion;
- 'retention' – refers to the ability of an institution to retain a student from admission to the university through to graduation (from that university);
- 'stop-out' – refers to a student who temporarily withdraws from an institution or system (and later returns to resume his/her studies).
- 'withdrawal' – refers to the (single act of) departure of a student from a college or university campus.

The literature on the retention, persistence, and success of college students attempts to understand the complex interactions among the backgrounds, skills, and dispositions of students, and the intentional programmes and services offered by institutions to encourage successful completion of a post-secondary degree.

Explanatory Context

In the United States the federal government oversees public education and grants responsibility and specific oversight to the states (via the Tenth Amendment to the United States Constitution). The ages for compulsory education vary across states, beginning between five and eight years old and ending between 14 and 18 years old. Post-secondary education is optional, therefore enrolment in a college or university is an individual decision, and subject to the admission requirements of the institution. The quality of post-secondary education institutions is also audited by independent, regional accreditation organisations. 'Accredited institutions' are subject to review by peers through a formal, systematic process of evaluation.

The nature and type of institutions vary greatly in mission and goals (liberal arts, professional, vocational, and combinations). Two-year colleges (often called 'community colleges' due to their regional focus) typically provide open admission to high school graduates and offer the Associates degree (with the Associate of Arts degree the most common). Four-year institutions offer the Bachelors degree (Bachelor of Arts or Bachelor of Science, among others) and a wide range of disciplinary majors. Some offer programmes at the graduate level. Many students begin their education at a community college, earn an Associates degree, and then transfer to a four-year institution to earn a Bachelors degree. Quite often, however, the path through the US educational system is less linear.

Funding for education is complex and is generated from both public sectors (federal, state and local structures) and private entities. Post-secondary education, particularly four-year colleges and universities, are typically run separately from the compulsory education system. In some states the two-year community college system, however, is a function of the K-12 system.

As of 2010, there are approximately 4,409 degree-granting colleges, universities, and community colleges in the United States (private and public). The National Center for Education Statistics (NCES) provides the most up-to-date and comprehensive information on trends and enrolment patterns throughout all levels of education in the US. The *Condition of Education* annual report for 2010 reveals the following selected findings regarding undergraduate enrolment patterns:

- In 2007-08, about 20 percent of all public elementary schools and 9 percent of public secondary schools were considered high-poverty schools, compared with 15 percent and 5 percent respectively in 1999-2000.
- In 2007-08, according to school administrators, about 28 percent of high school graduates from high-poverty schools attended 4-year colleges after graduation, compared with 52 percent of high school graduates from low-poverty schools.
- The percentage of 25- to 29-year-olds who completed a bachelor's degree increased from 17 percent in 1971 to 29 percent in 2009. During

this same period, bachelor's degree attainment more than doubled for Blacks (from 7 to 19 percent) and Hispanics (from 5 to 12 percent) and nearly doubled for Whites (from 19 to 37 percent).

- Total undergraduate enrolment in degree-granting postsecondary institutions increased from 7.4 million students in 1970 to 13.2 million in 2000 and to 16.4 million in 2008 (see table A-7-1). According to projections, enrolment in undergraduate institutions is expected to reach 19.0 million in 2019 (the last year for which projected data are available).
- Approximately 57 percent of first-time students seeking a bachelor's degree or its equivalent and attending a 4-year institution full time in 2001–02 completed a bachelor's degree or its equivalent at that institution in 6 years or less. This indicator focuses on the cohort of first-time, full-time students seeking a bachelor's degree or its equivalent who began attending a 4-year institution in 2001 and who completed a bachelor's degree or its equivalent 4, 5, and 6 years later. These graduation rates were calculated as the total number of completers within the specified time to degree attainment divided by the cohort of students who first enrolled in the 2001–02 academic year.

Enrolment in community colleges has increased as students and their parents face financial challenges, and the partnership between two-year and four-year institutions becomes stronger. Legislators and academic decision-makers in many states have come together to develop articulation agreements that allow a more seamless approach to degree requirements.

Since community colleges offer comprehensive programmes beyond those leading to an Associates degree, student goals must be taken into account when collecting data on individual persistence and institutional retention. For example, the NCES report, *On Track to Complete? A Taxonomy of Beginning Community College Students and Their Outcomes 3 Years After Enrolling: 2003-04 through 2006,* uses a "Community College Taxonomy (CCT) to analyze outcomes for beginning community college students according to how 'directed' (strongly directed, moderately directed, or not directed) they are toward completing a program of study. Levels of direction are based on factors associated with student persistence and degree attainment, and outcomes examined included institutional retention, student persistence, 4-year transfer rates, enrollment continuity, and first-year attrition" (http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009152, ¶ 1).

Recent findings reveal:

- *Students classified according to the CCT as 'strongly directed' toward completion had higher rates of institutional retention, student persistence, AA [Associate in Arts] degree attainment, and 4-year transfer than did their less-directed peers.*
- *Nearly one-fourth left college in their first year and did not return within the 3-year study period. [With regard to self-reported motivation,] 'strongly directed' students left college in their first year at a lower rate (16 percent) than did their "moderately directed" (29 percent) or 'not directed' (41 percent) counterparts.*

- *Overall, 49 percent of students had maintained their enrollment or completed a program of study at their first institution, and 55 percent had persisted in any postsecondary institution, within three years after their enrollment.*
- *Some 10 percent of students had earned an AA degree, 5 percent had obtained a vocational certificate, and nearly 20 percent had transferred to another institution.*
  (http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009152 , ¶ 2)

Academic administrators rely on accurate projections as they manage programmes and enrolment strategies. Researchers at the NCES also engage in enrolment projections for post-secondary institutions:

> *Degree-granting institutions are post*secondary *institutions that provide study beyond secondary school and offer programs terminating in an associate's, baccalaureate, or higher degree. Differential growth is expected by student characteristics such as age, sex, and attendance status (part-time or full-time). Enrollment is expected to increase in both public and private degree-granting institutions.*
> (http://nces.ed.gov/programs/projections/projections2018/sec2a.asp, ¶ 1)

Total undergraduate enrolment in degree-granting post-secondary institutions increased from 7.4 million students in 1970 to 13.2 million in 2000 and to 16.4 million in 2008 (see http://nces.ed.gov/programs/coe/2010/section1/table-hep-1.asp). According to projections, enrolment in undergraduate institutions is expected to reach 19.0 million in 2019 (the last year for which projected data are available) (http://nces.ed.gov/pubs2010/2010028_6.pdf).

> ***Factors affecting the projections:*** *Changes in age-specific enrollment rates and college-age populations will affect enrollment levels between 2008 and 2019. An important factor is the expected increase in the population of 25-to 29-year-olds.* ***Three alternative sets of projections:*** *Middle, low, and high sets of projections were made for total enrolment in degree-granting institutions and for enrolment by age, sex, attendance status, level (undergraduate, graduate, or first-professional), and control of institution.*
> (http://nces.ed.gov/programs/projections/projections2017/sec2a.asp)

Student characteristics and background demographics have an impact on both decision to enrol in education beyond high school, and ability to do college-level academic work. However, predictions of success do not lie exclusively with established preparedness. In recent years, the context of persistence and success has moved to an exploration and attention to the concept of 'student engagement'. *Student engagement* refers to the time and effort students put into their coursework and other educationally purposeful activities. According to Kuh *et al.* (2005), "what students *do* during college counts more for what they learn and whether they will persist in college than who they are or even where they go to college" (p. 8).

Much of the literature on student persistence and success is focused on satisfactory completion of courses taken in the first year of college and immediate enrolment into the second year (Upcraft *et al.*, 2005). Despite the significant increase in programming intended to increase retention rates, results

of a recent survey conducted by ACT, Inc., reveal that those percentages are declining, especially at four-year institutions: "A total of 66 percent of first-year college students returned to the same institution for their second year of college in the 2007-2008 academic year, the lowest percentage since 1989. This figure is down from 68 per cent in 2006-2007 and 69 percent in 2005-2006" (http://www.act.org/news/releases/2009/1-22-09.html, ¶ 1).

The lens of student success becomes wider when considering other intended learning and developmental outcomes, such as cognitive competency through academic success in disciplinary areas of study, connections with faculty, staff and fellow students, identity development, maintaining health and wellness, considering faith and the spiritual dimensions of life, developing multicultural awareness, deciding on a career, and developing civic responsibility (Lynn, 2008; Upcraft *et al.*, 2005).

Connections made between the student and the representative individuals, programmes, and services at the institution lead directly to persistence and success. "Involvement, or what is increasingly being referred to as engagement, matters and it matters most during the critical first year of college" (Tinto, 2007, p. 4). The two critical elements of student engagement involve, then, the student perspective (time and effort expended on coursework and other positive activities) and the institutional perspective (allocation of resources toward programmes and services that encourage students to expend that time and effort). This intentional approach to educationally purposeful activities has helped to shift the conversation on retention and persistence in the US to a shared, collaborative responsibility between students and the institutions they attend (Kuh, 2001a).

Key research reports

1. The US Department of Education oversees the National Center for Education Statistics (NCES), which is the primary federal entity for collecting and analysing data related to education (http://nces.ed.gov/). They conduct and sponsor studies on a wide range of issues related to persistence and student success. For example:

   On Track to Complete? A Taxonomy of Beginning Community College Students and Their Outcomes 3 Years After Enrolling: 2003-04 through 2006
   http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009152

   This study uses a classification scheme, the Community College Taxonomy (CCT), to analyze outcomes for beginning community college students according to how 'directed' (strongly directed, moderately directed, or not directed) they are toward completing a program of study. Levels of direction are based on factors associated with student persistence and degree attainment, and outcomes examined included institutional retention, student persistence, 4-year transfer rates, enrollment continuity, and first-year attrition. The study is based on data from the 2004/06 Beginning Postsecondary Students Longitudinal Study (BPS:04/06), a national sample of undergraduates who enrolled in postsecondary institutions for the first time between July 1, 2003, and June 30, 2004; participants were interviewed in 2004 and 2006. This study includes only students who initially enrolled in a community college and were not enrolled concurrently in any other institution.

2. The Integrated Postsecondary Education Data System (IPEDS) is the primary source for data on colleges, universities, and technical and vocational post-secondary institutions in the US, and operates under the auspices of the United States Department of Education (USDE) (http://nces.ed.gov/ipeds/).

   All post-secondary institutions that participate in federal student financial aid programmes are required to submit data on enrolments, programme completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid. Designated institutional researchers are required to supply these data on behalf of the institution. Once the USDE has collected and aggregated the data, researchers at all levels conduct studies on relevant issues. For example, a recent study on degree attainment revealed:

   - *On average, first-time recipients of bachelor's degrees in 1999–2000 who had not stopped out of college for 6 months or more took about 55 months from first enrollment to degree completion. Graduates who had attended multiple institutions took longer to complete a degree. For example, those who attended only one institution averaged 51 months between postsecondary entry and completion of a bachelor's degree, compared with 59 months for those who attended two institutions and 67 months for those who at-*

tended three or more institutions. This pattern was found among graduates of both public and private not-for-profit institutions.

- *Students who begin at public 2-year institutions must transfer to another institution in order to complete a 4-year degree. Students who did so took about a year and one-half longer to complete a bachelor's degree than students who began at public 4-year institutions (71 vs. 55 months), and almost 2 years longer than those who began at private not-for-profit 4-year institutions (50 months). The type of institution from which graduates received a degree was also related to time to degree: graduates of public institutions averaged about 6 months longer to complete a degree than graduates of private not-for-profit institutions (57 vs. 51 months).*
- *Other factors are also related to time to degree completion. As parents' education increases, the average time to degree completion decreases. In addition, as age and length of time between high school graduation and postsecondary entry increases, time to degree completion also increases. Higher grade-point averages were associated with a shorter time to degree completion among graduates of public institutions, but not among graduates of private not-for-profit institutions.*

Source: National Center for Education Statistics (2003).

3. Evidence on student success and persistence is complex, so a number of consortia have been established at all levels of education to not only share data, but to oversee the integrity of the data.

   For example, established by the NCES in 1995, the National Postsecondary Education Cooperative (NPEC) is:

   > *… a voluntary organization that encompasses all sectors of the postsecondary education community including federal agencies, postsecondary institutions, associations and other organizations with a major interest in postsecondary education data collection. NPEC's mission is to 'promote the quality, comparability and utility of postsecondary data and information that support policy development at the federal, state, and institution levels'.*
   >
   > *NCES has assigned NPEC the specific responsibility for developing a research and development agenda for the Integrated Postsecondary Education Data System (IPEDS). IPEDS is the core post-secondary education data collection program for NCES. NPEC also occasionally produces products that are of value to post-secondary data providers, users, and institutional representatives, and provides technical*

expertise on other IPEDS research and development projects.

4. Adelman, C. (2006) *The toolbox revisited: Paths to degree completion from high school through college.* US Department of Education. http://www.ed.gov/rschstat/research/pubs/toolboxrevisit

   This 'data essay' follows a nationally representative cohort of students from high school into post-secondary education and examines the factors of their 'formal schooling' that contribute to completion of a Bachelors degree by the time they reach their mid-20s. Its core question moves beyond retention and persistence, toward the ultimate goal of degree completion – "the culmination of opportunity, guidance, choice, effort, and commitment" (p. xv). The study (known as the NELS:88/200) followed a national sample of eighth graders in 1988 who were scheduled to complete high school in 1992. They were then followed through to December 2000, using a multiple-method design, to study their entrance, experiences, and outcomes in post-secondary education.

   The study replicates an earlier model, and is timely due to the many reform programmes implemented over the past decade, not least of which is the *No Child Left Behind* legislation, designed to 'jump-start' academic momentum at the K-12 level and hold schools more accountable for student learning outcomes.

5. The Association for Institutional Research (AIR) is a membership organisation with interests in institutional data and reports (http://www.airweb.org/).

   The mission of the Association for Institutional Research (AIR) is to support members in their efforts to continuously improve the practice of institutional research for post-secondary planning, management and operations, and to further develop and promote the institutional research profession. There are a number of resources and reports available to academic personnel and other key stakeholders regarding the use of institutional data to study enrolment issues (http://www.airweb.org/?page=309).

6. *The Role of Academic and Non-Academic Factors in Improving College Retention* is an ACT policy report. Released in 2004, it "provides information from our major technical study about the influence of non-academic factors, alone and combined with academic factors, on student retention and performance at four-year colleges and universities. It highlights examples of successful retention strategies and stresses the need to evaluate the bases on which retention policies and programs are created. It concludes by offering recommendations to help administrators and policymakers consider both academic and non-academic factors in the design and implementation of retention efforts" (http://www.act.org/research/policy).

Synthesis of research findings

"Research on student retention is voluminous. It is easily one of the most widely studied topics in higher education over the past thirty years" (Tinto, as cited in Seidman, 2005, p. ix). Concerns about student retention and persistence continue to grow in United States higher education institutions. There is increasing demand for direct evidence of student learning and development, as well as attention to the connections between the outcomes of educational experiences and indicators of success.

The synthesis of the literature will be examined under the following topics:

1. an overview of the theoretical models related to student persistence, institutional retention, and academic success;
2. institutional approaches to improving engagement, persistence, and retention;
3. accountability pressures from the public.

1. An overview of the theoretical models related to student persistence, institutional retention, and academic success

There is an abundance of literature on student persistence, institutional retention, and academic success. In fact individual, institutional, and public attention to the rising costs of education has only served to increase the systematic approach to studying factors that influence persistence and retention. The literature will be examined through the lens of the student and then of the institution.

1.1 Student persistence

Much of the literature is examined under the foundational models of Vincent Tinto's theory of student departure (1975) and Alexander Astin's theory of involvement (1977, 1985), as well as the work of Spady (1971), Kamens (1974), and Bean (1980, 1984). Braxton (2000) has also had an ongoing research agenda seeking to refine documentation of student persistence, particularly with regard to Tinto's original model.

The early models brought together critical components from both the educational and sociological literature, to include: attributes prior to entry (previous schooling and family background), aspirational goals, experiences with the institution while in college (related both to academic involvement and extra-curricular activities), academic and social integration, competing commitments, and the resultant outcomes related to staying in school or leaving school prior to attainment of goals (Tinto, 1975). Tinto's model coupled the expectations and preparedness of students with their integration into their chosen institution to predict the likelihood of staying or leaving.

Astin's (1977) theory of student involvement articulated a growth model that included inputs, environments, and outcomes (IEO). The inputs represent the pre-college characteristics that each student brings to post-secondary education, including skills and abilities, demographic

variables, attitudes and values, and educational goals. Environments include the in-class and out-of-class experiences that the student is exposed to throughout the course of study. The interactions between and among inputs-environments-outcomes provide a framework for research on persistence and retention.

The early works of Tinto and Astin were complementary and serve as a starting point for much of the literature, even today. While many of the experiences that students have are mandatory and consistent across programmes, individual decisions regarding involvement in all levels of the institution affect the outcomes, specifically decisions to persist and academic success. Tinto's longitudinal work on individual decision-making perhaps provides the most prevalent conceptual model in the persistence literature. His attention to the behaviours of students, and how they choose to be integrated within the academic and social culture of an institution has launched an ongoing agenda for researchers, including Tinto himself.

Metz's (2002) paper, 'Challenges and Changes to Tinto's Persistence Theory' provides a comprehensive review of the literature on this topic, following decades of work of prominent researchers. For example, Bean's causal model of student attrition was influenced by Tinto and Astin, as well as the early work of Spady (1970). Bean approached student departure through the theoretical concept of job turnover in the organisational development literature. Metz incorporated Tinto's (1975) goal commitment model with Spady's (1970) social integration process model, and added attitudinal variables. Student attrition, then, was affected by:

- student background variables;
- interaction by students within the institution;
- the influence of environmental variables (finances, family support);
- the presence of attitudinal variables (a subjective evaluation of the perceived quality in self-satisfaction with the institution);
- student intention, such as transfer and degree attainment. (Metz, 2002, p. 8)

Pascarella and Terenzini (1980) examined Tinto's models through a multi-institutional perspective, as well as focusing on the effects of the interactions that students have with faculty, and have continued significant work on college outcomes within four taxonomic dimensions. The dimensions (Pascarella and Terenzini, 1991) address the developmental aspects of individual learning and experiential changes:

- cognitive-psychological (subject matter knowledge, critical thinking);
- cognitive-behavioural (level of educational attainment, occupational attainment, income);
- affective-psychological (values, attitudes, personality orientations);
- affective-behavioural (leadership, choice of major, choice of career, use of leisure time).

The dimensions are examined under a multitude of conditions common to college students, including experiences within the institution, the impact of different types of institutions on attitudes and behaviours, and the longitudinal developmental aspects of maturity.

Chickering (1969) provided a substantive contribution to the psychosocial literature with his theory on traditional college age students, which included seven vectors of development:

- developing competence;
- managing emotions;
- moving through autonomy toward interdependence;
- developing mature interpersonal relationships;
- establishing identity;
- developing purpose;
- developing integrity.

The purpose of the seven vectors was to articulate the interaction of the college environment on an individual's emotional, social, physical, and intellectual growth. Revisions to the framework, based on significant research over almost 25 years, included clarifications of some of the vectors, as well as a broadening of elements within those areas dealing with emotion, a move toward interdependence through increasing autonomy, and the impact on intercultural aspects of tolerance through the development of mature relationships (Chickering and Reisser, 1993). The attention to formation of identity throughout a student's years in college has also shaped subsequent research on persistence.

1.2 Retention from the institutional perspective

The substantial expansion of the numbers and nature of the student body after the passing of the G.I. Bill in the late 1950s forced institutions to take a more intentional approach to the management of their enrolment. Higher education was now available to more high school graduates than ever before, and this shift in applicants resulted in a more diverse population in relation to academic preparedness, individual goals, and the challenges of competing roles in their personal lives. As the number and scope of community colleges grew, and applications to all types of institutions increased, faculty and staff in both two-year and four-year institutions began to recognise surprising trends in enrolment patterns through the next decade. Fewer students who began college finished college, and many who stayed on experienced a lower level of academic success than students, parents, and academic personnel desired.

The early models related to persistence all included attention to the interaction between the student and the institution as a key variable within the decision to persist (Astin, 1999, 1993; Beal and Noel, 1980; Pascarella and Terenzini, 1991, 2005; Spady, 1971; Tinto, 1975, 1987, 1993). Student interaction with the institution involves three interrelated systems: organisational, academic, and social (Berger, 2000).

Organisational system: The organisational system includes those aspects that define the institution and its focus, including policies, programmes, services, and mission, as well as institutional size, curricular focus and selectivity (Pascarella and Terenzini, 1991; Upcraft *et al.*, 1989). The culture and climate of the institution is represented through the attitudes, values, and behaviours of all who are a part of the organisation, including administrators, faculty, support staff, current students, and governing bodies. The dynamic interaction between an individual student, especially one new to the school, has an effect on the student's sense of belonging, or 'fit' within the organisation (Astin, 1977; Beal and Noel, 1980). The extent to which faculty and staff recognise explicit and implicit messages sent to students through the organisational system is one aspect of an intentional approach to indicators related to retention.

Academic system: Students interact with the academic system of the institution through the academic curriculum, which takes place in classrooms and other related venues. The literature reveals that dynamic pedagogical approaches to learning and instructional strategies that promote active involvement with the educational process has an effect on student persistence and success (Kuh *et al.*, 2005; Pascarella and Terenzini, 2005; Shulman, 2002).

Social system: The social system refers to the interpersonal interactions that students have within the organisation, including faculty and staff, peer groups, and involvement in extra-curricular activities. Additionally, "college student peers, family socioeconomic status, mechanisms of anticipatory socialization, and the support of significant others constitute important social forces that influence college student departure decisions" (Braxton and Hirschy, 2005, p. 64). Therefore, institutions began to address the personal and emotional aspects of attendance through increased resources that supported programmes and services promoting wider involvement in activities outside of the classroom (Skipper and Argo, 2003). Faculty members were encouraged to recognise the value of a less formal approach to their interactions with students, in order to establish a shared culture of learning and development.

1.2.1 Conceptual frameworks on student engagement

As highlighted earlier, in recent years the context of persistence and success has moved to an exploration and attention to the concept of 'student engagement' which refers to the time and effort students put into their coursework and other educationally purposeful activities. Lynn (2008) provides an overview of the conceptual frameworks associated with the institutional views (educational, philosophical, and pedagogical) of student engagement:

Educational Views

In Principles of Good Practice for Undergraduate Education, Chickering and Gamson (1987) outlined seven effective educational practices that impact on student learning and educational experiences. According to Chickering and Gamson (1987), good practice in undergraduate education

- *encourages contact between students and faculty,*
- *develops reciprocity and cooperation among students,*
- *encourages active learning, gives prompt feedback,*
- *emphasizes time on task,*
- *communicates high expectations, and*
- *respects diverse talents and ways of learning.*

These seven principles are often considered engagement indicators that can be used to determine the quality of students' educational experience (Klein, Kuh, Chun, Hamilton & Shavelson, 2005; Kuh, 2001a; Kuh, Pace & Vester, 1997; Pascarella, 2001).

In addition to these good practices, other recommendations note the importance of a clear, focused institutional mission, an emphasis on students' first year of study, particularly the first few months, the integration of students' prior learning and experience, and continuous practice of the skills students have learned (Kuh et al., 2005). These educational practices are characteristic of colleges and universities that are effective at creating an engaging environment where students can flourish academically and socially (Kuh et al., 2005).

Philosophical Views

Related to the best practices identified by Chickering and Gamson (1987) are the philosophical views of engagement that call for an intentional shift for faculty and staff in higher education from the traditional instruction paradigm to a learning paradigm (Barr & Tagg, 1995). The need for reflective change in instructional strategies and curricular development are consistent with findings that note the importance of a student-centered, outcome-oriented environment for improving student success (Noel, Levitz, Saluri, & Associates, 1985). According to Barr and Tagg (1995) the instruction paradigm assumes that "a college is an institution that exists to provide instruction" (p. 565). Alternatively, the learning paradigm is based on the premise that "a college is an institution that exists to produce learning" (Barr & Tagg, 1995, p. 565). Barr and Tagg (1995) offered examples of the key differences between the instruction paradigm and learning paradigm with regard to institutional mission and purposes, criteria for success, teaching/learning structures,

learning theory, productivity/funding, and the nature of roles within the institution.

Huba and Freed (2000) similarly called for a paradigm shift from what they referred to as a teacher-centered learning environment to one that is learner-centered. According to Huba and Freed (2000), a teacher-centered paradigm in higher education has several general characteristics: knowledge is transmitted from professor to students, students passively receive information, emphasis is on acquisition of knowledge outside the context in which it will be used, professor's role is to be primary information giver and primary evaluator, teaching and assessing are separate, assessment is used to monitor learning, emphasis is on right answers, desired learning is assessed indirectly through the use of objectively scored tests, focus is on a single discipline, culture is competitive and individualistic, and only students are viewed as learners.

Alternatively, a learner-centered paradigm in higher education incorporates the following characteristics: students construct knowledge through gathering and synthesizing information and integrating it with the general skills of inquiry, communication, critical thinking, problem solving; students are actively involved; emphasis is on using and communicating knowledge effectively to address enduring and emerging issues and problems in real-life contexts; professor's role is to coach and facilitate and learning is evaluated together; teaching and assessing are intertwined; assessment is used to promote and diagnose learning; emphasis is on generating better questions and learning from errors; desired learning is assessed directly through papers, projects, performances, portfolios, and similar authentic assessments; approach is compatible with interdisciplinary investigation; culture is cooperative, collaborative, and supportive; and professor and students learn together (Huba & Freed, 2000).

Shifting from an instruction- or teacher-centered paradigm to a learning- or learner-centered paradigm may be a lofty ideal; however, if achieved, this change in philosophy would have significant implications for the policies and procedures implemented at higher education institutions and the experiences of students. The educational and philosophical views of student engagement have shaped, and have been shaped by, the various pedagogical views of engagement.

Pedagogical Views

The body of knowledge regarding how individuals learn has experienced significant growth during the past several decades (National Research Council, 2001). Changes in our understanding of how the human mind works influenced the

development of the constructivism learning paradigm, which views learning as an active process of constructing and creating knowledge. From the constructivism perspective, human beings are seen as active seekers of meaning who build knowledge by making connections between existing knowledge and new concepts.

Group learning. The constructivism paradigm, coupled with the identification of good educational practices (Chickering & Gamson, 1987), led to an increased emphasis on active, undergraduate classroom pedagogies that often include an emphasis on group learning. Group learning approaches generally incorporate cooperative or collaborative learning techniques. While these terms are often used interchangeably, there are distinctions between the two (Bruffee, 1993; Gamson, 1994; Matthews, Cooper, Davidson, & Hawkes, 1995). Cooperative learning primarily consists of structured, small group activities that are developed and supervised by the instructor (Matthews et al., 1995). Collaborative learning incorporates active learning experiences and cooperation among learners, as well as the opportunity for students to reflect on their learning (Matthews et al., 1995). Studies show that participation in cooperative and collaborative activities positively impacts student learning and development (Astin, 1993; Cohen, 1994).

Engaging activities. In addition to activities that focus on interaction with student peers, there are a number of techniques that faculty members can use to get students actively involved with the course content. The concept of the college student as an "empty vessel" and the professor as the "sage on the stage" are no longer ideal; however, there are unfortunately numerous classrooms that continue to perpetuate those images (Meyers & Jones, 1993). What we know from how students learn is that active learning requires students to engage with the course content in a way that is meaningful for the student (Meyers & Jones, 1993; National Research Council, 2001). Activities that allow students to engage course concepts can include working through case study activities, participating in role playing, and journal writing exercises (Angelo & Cross, 1993; Erickson & Strommer, 1991; Meyer & Jones, 1993). Service-learning (Burbach, 2004) and problem-based activities (Angelo & Cross, 1993) are also increasingly popular means of engaging students in their coursework. Activities that encourage students to reflect on their own learning processes, known as metacognition, are particularly important for effective thinking and learning (National Research Council, 2001).

Feedback. It is important to incorporate a variety of activities, coupled with meaningful feedback, in order to create the most engaging learning experience (Angelo & Cross, 1993). With regard to pedagogical techniques, feedback relates to assessment of student learning and the communication of that assessment to the student. As noted by the National Research Council (2001), "one of the most important roles for assessment

> *is the provision of timely and informative feedback to students during instruction and learning so that their practice of a skill and its subsequent acquisition will be effective and efficient" (p. 4).*
>
> *The college classroom is the center of the educational experience, and in many cases it may serve as the primary form of academic and social interaction experienced by certain students at the institution (Tinto, 1993). Therefore, institutions must consider the benefits that students accrue when classroom pedagogies that encourage active learning and engagement are utilized.* (pp. 31-36)

The decades of research on the interaction between the student and all aspects of the educational institution have led to the development of new ways to collect data with the intention of informing decision-making at the programme and curricular levels, as well as increasing what is known about educationally related behaviours of students nationally. For example, the popular National Survey of Student Engagement (NSSE), first administered in 2000, annually gathers information from tens of thousands of college students attending hundreds of four-year colleges and universities (http://nsse.iub.edu/html/about.cfm). The Community College Survey of Student Engagement (CCSSE) is designed to target students attending two-year institutions. Related instruments focus on the expectations of students prior to enrolment (BCSSE) and expectations of faculty (FSSE) on the topic.

The approach to data gathering is based on the foundational assumptions of student engagement and relate to the "aspects of the undergraduate experience inside and outside the classroom that can be improved through changes in policies and practices more consistent with good practices in undergraduate education" (NSSE, http://nsse.iub.edu/html/about.cfm, ¶ 4).

The literature reveals a trend toward more intentional institutional initiatives that are assessed against primary indicators of student success and persistence. Items on instruments such as NSSE are intended to capture the educationally related behaviours of students (interactions with *academic* and *social* systems) that are the result of intentional practices through the *organisational* systems of the institution. The institution then can use the results, along with additional indicators at the local level, to examine those policies and practices that can be improved to attempt to influence the persistence and success of individual students. Retention data, then, are used to measure the outcomes of those decisions in aggregate.

2. Institutional approaches to improving engagement, persistence and retention

Faculty and staff in leadership positions over academic and extra-curricular programmes and services are under increasing pressure to demonstrate direct evidence of student learning and development and the impact of their interactions with students on retention. While every

element of the organisation is focused ultimately on students, there are particular departments, units, and initiatives that rely on, and contribute to, the literature on student persistence. The following sections will address transition and the first-year experience (including first-year seminars), learning communities, staff and faculty development and the scholarship of teaching and learning, academic advising and personal tutoring, student affairs and student services, and attention to risk factors for targeted sub-populations.

2.1 Transition and the first-year experience (including first-year seminars)

In an effort to address higher levels of student learning and maturity, as well as to deepen the level of student engagement with the educational process, colleges and universities are increasingly turning their focus to the first year of college. Since the largest proportion of students who choose to leave do so between the first and second year of college, this attention is designed to benefit both the student and the institution (Gardner, 1986). Additionally, as the number of non-traditional students increases (typically defined as individuals 25 years of age or older who do not enter college immediately after high school), the need for innovative and relevant programmes and services has risen (Ishler and Upcraft, 2005).

While every institution has departments and units that specifically work with first-year students, the trend is to increase the level and depth of collaboration between entities to take a more integrated approach. Troxel and Cutright (2008) highlighted the work of 22 two-year and four-year institutions who shared innovative initiatives designed to address specific needs of first-year students. These institutions documented descriptions and indicators of design, delivery, and evaluation of programmes for the benefit of first-year students. Particularly, the following commonalities were noted:

- programmes are not singular or isolated, but are integrated into a larger institutional philosophy and strategy;
- there is a consistent presence of explicit, measurable, and a priori goals for programmes;
- there is a campus-wide approach to the establishment of objectives, programme design, instructional and developmental strategies, and assessment;
- evaluation of programmes is an ongoing commitment;
- administration is on board.

(Troxel and Cutright, 2008, p. viii)

In an effort to improve the quality of the educational experience, and in response to increasing pressure from both internal and external stakeholders, institutions continue to seek better evidence of the impact of their programmes and services on learning and development, and specifically of first-year students. Among others, one notable effort has sought to address these concerns. Presented more fully later in this paper, The Gardner Institute (formally the Policy Center on the First Year of College) oversees the Foundations of Excellence® (http://www.fyfoundations.org/). Focused on enhancing undergraduate

education and the critical elements of retention, Foundations of Excellence® is a comprehensive, externally guided self-study and improvement process for the first year. Begun in 2003, the first year self-study was expanded in 2009 to include a focus on transfer students. This model can be used by colleges and universities to develop and refine their overall approach to educating new students.

Another increasing trend in the first year of college is the orientation of new students to both the institution and the world of higher education. In the early 1980s orientation courses designed to introduce new students to college typically included assistance in study skills, mental and physical health, time management, and general adjustment to college life (Upcraft *et al.*, 1989). More recently, most colleges and universities offer a more sophisticated curriculum through first-year seminars and learning communities, which may include an academic focus as well as transitional aspects.

First-year seminars may be optional or mandatory, credit bearing or non-credit bearing, and there is variation in structure, mission, curricular focus, and culture (Lynn, 2008). Some first-year seminars may focus on specific student sub-populations or disciplinary orientations, and may be taught by non-tenured faculty, tenured faculty, student affairs professionals, or other support service personnel. So while the number of institutions offering academic seminars has increased significantly, the format of the course varies widely across institutions (Tobolowsky, 2005). Consequently, the causal relationship between involvement in these programmes and a student's decision to persist to the second year remains difficult to assess. There is evidence, however, that suggests that students who participate in first-year seminars are retained at a higher rate than those who do not (Pascarella and Terenzini, 2005).

2.2 Learning communities

Learning communities take a step beyond the stand-alone seminar and typically link a group of students working (or studying) together through shared coursework. They are designed to not only create a shared experience, and therefore promote quicker relationships with peers and faculty, but also provide an opportunity to allow for a deeper level of interdisciplinary study. As with first-year seminars the structure and focus of learning communities varies across, and even within, institutions. Learning communities may be structured around content, sub-populations of students, career exploration, community service, and other developmental and academic areas. Learning communities may also be housed within residence halls, combining "shared courses with shared living" (Tinto, 2003, p. 4).

Tinto (2003) reported results of a study to "explore the impact of learning community programs upon the academic and social behavior and persistence of new students in three different institutional settings, specifically the University of Washington, LaGuardia Community College in New York City, and Seattle Central Community College ... [yielding] a number of important insights into the impacts of learning communities on student learning and persistence" (p. 5):

- *... students in learning communities tended to form their own self-supporting groups which extended beyond the classroom,*
- *... learning community students became more actively involved in the classroom learning, even after class,*
- *... participation in the learning community seems to enhance the quality of student learning,*
- *... as students learned more and saw themselves as more engaged both academically and socially, they persisted at a substantially higher rate than did comparable students in the traditional curriculum,*
- *Finally, student participants stories highlighted powerful messages about the value of collaborative learning setting and fostering what could be called the norms of educational citizenship, that is to say norms which promote the notion that individual educational welfare is tied inexorably to the educational welfare and interests of other members of the educational community. Students in these programs reported an increased sense of responsibility to participate in the learning experience, and an awareness of their responsibility for both their learning and the learning of others.*
  (Tinto, 2003, pp. 5-6)

Beyond the first college year, institutions are increasingly pointing human and fiscal resources to curricular and extra-curricular programmes and services designed to promote higher and deeper levels of involvement. Many of these programmes address the desire of today's student population to consider their connections to the world beyond their institution (civic engagement and service learning), as well as a more non-traditional approach to enrolment (distance and online learning).

Clearly, any programme designed to have an impact on student success must also include a comprehensive, intentional, systematic approach to assessment in order to determine effectiveness toward increased learning, development, and persistence (Laufgraben, 2005).

2.3 Staff and faculty development – from teaching to learning

Since most theoretical models on student persistence include elements of interaction with those that represent the institution, such as faculty and staff, it stands to reason that what happens in the classroom would inform a critical piece of the literature. However, research on specific behaviours of faculty designed to increase student persistence, and therefore institutional retention, has only recently emerged. Angelo and Cross (1993) captured the early shift from teaching to learning with their practitioner-based approach to classroom assessment, focusing on formative techniques designed to address a wide range of learning outcomes. The foundational framework of the classroom assessment was that when teachers better understand how much and how well students are learning in their classroom, their instructional strategies are most effective. In fact, a more dynamic approach to any chosen unit of study results in deeper learning, which leads to academic success.

This 'learner-centred' paradigm (Huba and Freed, 2000) has sought to transform the view of teachers in the classroom to pay more attention to the articulation of the intended learning outcomes and then to systematically gather direct evidence of appropriate competencies. Many colleges and universities now devote institutional resources to professional development units designed to work directly with classroom teachers to grow in areas of pedagogy. This is particularly important to the teaching and learning process given the fact that a large number of instructional professors were not formally trained in teaching strategies (Barr and Tagg, 1995).

Increasingly, faculty members are embracing the threads of pedagogical concepts within the decades of literature on student persistence through a scholarly approach to teaching, known now as the Scholarship of Teaching and Learning (SoTL). Building on the work of Boyer (1990), Brookfield (1995), Cross and Steadman (1996), Shulman (2000), and others, scholarly teaching (as distinguished from *good teaching*) "involves taking a scholarly approach to teaching just as we would take a scholarly approach to other areas of knowledge and practice. Scholarly teachers view teaching as a profession and the knowledge base on teaching and learning as a second discipline in which to develop expertise" (McKinney, 2007).

For further information, the Carnegie Foundation for the Advancement of Teaching is a premier policy and research centre whose charge is "to do and perform all things necessary to encourage, uphold, and dignify the profession of the teacher" (http://www.carnegiefoundation.org/about-us/about-carnegie/). Among other things related to education, it oversees the Carnegie Academy for the Scholarship of Teaching and Learning (CASTL), which brings 'innovative teaching' into the public arena, with the primary goal to "foster significant, long-lasting learning for all students".

2.4 Academic advising and personal tutoring

Academic advisers assist students in their identification of academic goals, navigating logistical paths through the curriculum, and tracking progress to their planned academic degree. The National Academic Advising Association (NACADA) is the professional organisation devoted to faculty and staff working with students in this capacity. In a recent edition of the electronic *Clearinghouse of Academic Advising Resources*, Executive Director Charlie Nutt addressed the connection between academic advising and student retention and persistence. Excerpts of his overview of the relevant literature and the identification of current areas of emphasis are presented:

> *In his research, Alexander Astin (1977, 1993) determined that the persistence or retention rate of students is greatly affected by the level and quality of their interactions with peers as well as faculty and staff. Tinto (1987) indicates that the factors in students dropping or 'stopping' out include academic difficulty, adjustment problems, lack of clear academic and career goals, uncertainty, lack of commitment, poor integration with the col-*

lege community, incongruence, and isolation. Consequently, retention can be highly affected by enhancing student interaction with campus personnel. Rendon (1995) indicates in her study that two critical factors in students' decisions to remain enrolled until the attainment of their goals are their successfully making the transition to college aided by initial and extended orientation and advisement programs and making positive connections with college personnel during their first term of enrolment. Noel (1985) stated: 'It is the people who come face-to-face with students on a regular basis who provide the positive growth experiences for students that enable them to identify their goals and talents and learn how to put them to use. The caring attitude of college personnel is viewed as the most potent retention force on a campus' (p. 17).

'Academic Advising is the only structured activity on the campus in which all students have the opportunity for one-to-one interaction with a concerned representative of the institution' (Habley, 1994). Tinto (1987) indicates that … academic advising is [central] to successful institutional efforts to educate and retain students. For this reason, academic advising, as described by Habley, should be viewed as the 'hub of the wheel' and not just one of the various isolated services provided for students. Academic advisors provide students with the needed connection to the various campus services and supply the essential academic connection between these services and the students. In addition, academic advisors offer students the personal connection to the institution that the research indicates is vital to student retention and student success.

However, successful academic advising programs cannot be solely responsible for retention rates on a campus. As the hub, advising is one piece of the retention puzzle. Retention efforts must focus on all components of the campus and building strong and effective connections between the advising program and the various components of campus. For example, as financial concerns often affect student persistence, it is vital that advisors build strong collaborations with the financial aid departments on campus. Advisors need to be able to understand the policies and procedures that affect students' financial aid as well as have a clear understanding of how to refer effectively those students in financial need.

Since student indecision as to major or career options is a primary factor in student persistence, advising programs should have strong links to the career services on campus as a part of any retention plan. Advising and career services should be, if possible, interrelated so that students see the connection between their academic planning and their career goals. Several

institutions, for example Rowan University (http://www2.rowan.edu/), have combined advising and career services into one unit where career counselors and academic advisors are cross trained to work with students in both areas.

Residence life is another area where essential collaborations are needed with advising services in order to enhance student retention and persistence. Several institutions, such as the University of Georgia (http://www.uga.edu/) and Kansas State University (http://www.ksu.edu), have established advising centers in residence halls to provide students with on-site advising and assistance. This model is extremely valuable in establishing a sense of community where advising is viewed as an essential part of the community.

Last, it should be clearly established that academic advising is the direct link between the academic affairs and student affairs components of a campus that can build a culture of student retention. Several campuses, such as the College of Coastal Georgia (http://www.ccga.edu) have established committees or advisory boards for advising which represent all constituencies of the campus, including faculty, students, student affairs personnel, and staff. Often these committees report to both the Vice Presidents for Academic Affairs and Student Affairs establishing that campus-wide collaborations, with advising as the central focus, are necessary for establishing effective retention efforts.

In these times of financial cut backs, student retention, persistence, and success will continue to be a major emphasis on our college campuses. Any retention effort must clearly recognize the value of academic advising to the success of students and the necessity that advising becomes a central part of a collaborative campus-wide focus on the success of our students.
Source:
http://www.nacada.ksu.edu/Clearinghouse/AdvisingIssues/retention.htm

The NACADA organisation continues to support professional conversations and systematic research on a wide range of elements that affect students' decisions to persist. Resources are available on the NACADA website (http://www.nacada.ksu.edu).

2.5 Student affairs and student services

There is a large amount of literature on the impact of out-of-class experiences on retention, especially given the fact that the development of student services programmes was a direct response to the call for increasing student interaction with the organisational and social systems of the institution. Concern about the oversight of students engaged in

activities outside of the classroom dates back to the earliest days of American higher education. Institutional representatives took on the role of the parents away from home (*in loco parentis*) and accepted the high level of responsibility for the students under their care (Pascarella and Terenzini, 1991).

As responsibility for the social development of students moved away from classroom teachers, specialists began to be hired to focus on areas that students needed and desired, including counselling, programming of activities, curricular advising, discipline, and housing, among others (Hutto, 2002). The structure and organisational design varies from institution to institution, but it is safe to say that every college and university employs non-teaching personnel who work with students with a focus to help them succeed (Schuh and Upcraft, 1996).

Since the literature on student persistence and institutional retention focuses so specifically on involvement, integration, and engagement, the work of student affairs professionals and the programmes and services they administer are strongly linked. However, the theoretical foundations that now guide the work of student affairs professionals were limited prior to the 1960s (Skipper, 2005). Hutto (2002) identifies several theory categories applicable to student affairs work: "psychosocial development theory, cognitive theory, typology theory, student involvement theory, and retention theory" (pp. 6-7). Chickering's psychosocialdevelopment theory, Astin's student involvement model, and Tinto's model of student departure provide the theoretical underpinnings of the programmes and services administered by student affairs professionals.

There are currently a number of organisations devoted to the development and support of student affairs professionals, as well as promoting continuing research and exploration of the impact that programmes and services outside the classroom have on student development and persistence. A search of the literature over the last two decades or more, as well as of recent conferences, seminars, and focused conversations reveal that the terms 'partnerships' and 'collaboration' between academic affairs *and* student affairs are used frequently (Stodt and Klepper, 1987; Kellogg, 1999; Schuh and Whitt, 1999; Skipper and Argo, 2003; Pascarella and Terenzini, 2005; Troxel and Cutright, 2005; Upcraft *et al.*, 2005). While most US colleges and universities are organised administratively to separate personnel under either academic affairs or student affairs, the responsibility for the retention and success of students is a joint effort.

2.6 Attention to risk factors for targeted sub-populations

The variables influencing student persistence are complex and dynamic. Critics of the early literature (including some researchers themselves) point to the fact that many studies were conducted on predominantly white, middle-class students and that it is quite possible that the most important variables differ across sub-populations, including, " part-time students, ethnic minorities, women, or academically underprepared students at different types of institutions" (Braxton and Hirschy, 2005, p. 65). Datasets that are analysed and reported in aggregate neglect the individual nature of the educational experience, and often fail to address

the context with which colleges and universities attempt to influence student success.

Many US institutions are developing intentional programmes and services targeted for those students identified as being at a higher level of risk for early departure as a result of academic failure or personal obligations and pressures. While there are many demographic and personal variables that play a role in a student's readiness and ability to handle the rigours of a college education, a few are presented here briefly.

First-generation students: First-generation students (those students who come from a family where neither parent attended college) have little experience with the culture, language, and formal and informal systems of higher education and therefore find their transitions more difficult (Ishler and Upcraft, 2005). Additionally these students tend to come from families with lower incomes and are less involved in high school (Terenzini *et al.*, 1996).

Underrepresented populations: While the proportion of students from racial and ethnic groups other than White/Caucasian still lags below the national picture, the number of African-American, Hispanic and Latino/a, Asian, and American Indian students enrolling in, and graduating from, US colleges and universities is rising modestly (NCES, 2009). Factors related to student persistence varies even within each group due to the rich diversity of the American people, but it is clear that there remains a disturbing gap in the retention and graduation rate data, particularly for African-American males (Hagedorn *et al.*, 2002). The NCES maintains comprehensive data on degree completion at post-secondary institutions throughout the US. A recent report shows the ten-year trend of degrees conferred (1996-97 to 2006-07) distributed by race/ethnicity and gender (http://nces.ed.gov/fastfacts/display.asp?id=72). Overall females of each racial/ethnic group generally earn more degrees than their male counterparts for each type of degree. The percentage distribution rose in all non-White categories, but the majority of degrees conferred are still earned by White students (68% of Associates degrees, and 72% of Bachelors degrees).

Adult students: The number of older students returning to college or beginning college for the first time continues to rise. While the formula for student success is not significantly different for students regardless of age, there are additional pressures and challenges for older students. Often called non-traditional students, the NCES (as cited in Ishler, 2005) articulated seven characteristics that typically define them:

- have delayed enrolment into post-secondary education;
- attend part-time;
- are financially independent of parents;
- work full-time while enrolled;
- have dependents other than a spouse;
- are single parents;
- lack a standard high school diploma.

(p. 18)

Many adult students are enrolled in traditional academic programmes and attend classes with the majority of students who are much younger. However, a number of adult students are enrolled in programmes specifically designed for them, most often run by community colleges. These adult education programs provide a valuable service to individuals seeking training and retraining in specific job skills as well as personal educational development. The literature base on all elements of these programmes is increasing, with particular attention to research and current practice with a focus on success (Isserlis, 2008).

3 Affordability and persistence

3.1 Economic impact – federal and state funding issues

As global and national economies struggle for stability, educational institutions feel the impact through decreased support at the state level, a lower-level of private donations, and a weakening value of the dollar. Enrolment in colleges and universities tend to rise as people returned to school to become better trained and more marketable in a shrinking job market. Affordability is a factor in a student's decision and ability to persist (Cragg, 2009; St. John *et al.*, 2001; Titus, 2006b). As the costs of operating complex institutions also continue to increase, the challenges related to affordability, access, and persistence grow.

The recent report, *Measuring Up 2008:The National Report Card on Higher Education*, addressed this disparity:

> *The deterioration of college affordability throughout the United States has contributed to the disparities in higher education opportunity and attainment. There are several dimensions to this national and state problem. First, college tuition continues to outpace family income and the price of other necessities, such as medical care, food, and housing. Whatever the causes of these tuition increases, the continuation of trends of the last quarter century place higher education beyond the reach of most Americans and would greatly exacerbate the debt burdens of those who do enroll.*
>
> *Second, the erosion of college affordability has been exacerbated not only by increased tuition, but also by relatively flat or declining family incomes. As a result of these trends, the financial burden of paying for college costs has increased substantially, particularly for low- and middle-income families, even when scholarships and grants are taken into account.*
>
> *Third, students who do enroll in college are taking on more debt to maintain their college access. More students are borrowing, and they are borrowing more. Over the last decade, student borrowing has more than doubled. Another dimension of the problem of college affordability involves the financial aid priorities of colleges and universities, which are not in sync with public policy priorities. Currently, students from middle- and upper-income families receive larger grants from colleges and universities and students from low-*

income families receive. (National Center for Public Policy and Higher Education, 2009, pp. 8-9; see this and other full reports at: http://www.highereducation.org/reports/reports_center.shtml)

The federal government has continued to support individual students and their families through the Pell Grant programme. First authorised by the 1972 amendments to the Higher Education Act of 1965, it is the largest need-based programme available to low-income undergraduates. It is intended to provide a basic foundation of financial aid, to which they may add other grants, loan, or work-study awards from both federal and non-federal sources. A recently published governmental report revealed that "after controlling for transfer and stopout rates and several other related variables, receiving a grant is actually associated with a shorter time to degree" (Wei, et al., 2009, p. vii) than was previously determined.

Interestingly, as policy makers target higher education institutions as the source of the problem in the issue of affordability for Americans, public funding as a source of institutional revenue has steadily declined due to the struggling economy (Titus, 2006b). Since state governments administer and fund public higher education, the budget allocation process varies greatly across the country. The 2008 finance report of the national association of State Higher Education Executive Officers (SHEEO) reports that "over the last 25 years, the share of total educational revenue derived from tuition increased over 10 percentage points from approximately 24 percent to a high of 36.6 percent in 2006. In 2008, it was at about 36.3 percent" (SHEEO, 2009, p. 8).

Addressing a gap in the literature, Titus (2006a) studied the relationship between college completion rates and a state's higher education policy context. He concluded that:

First, at least two aspects of student background characteristics, pre-college academic performance and SES, are useful for explaining college completion within a four-year institution. (p. 310)

Second, consistent with prior research, the results of the study underscore how college completion is positively influenced by such aspects of the college freshman experience as performing academically while in college, living on campus, and being involved on campus. (pp. 310-311)

Third, this study demonstrates that such variables as unmet financial need and the number of hours spent working have a negative effect on college completion. (p. 311)

Fourth ... even after taking student-level variables into account, college completion is positively associated with the percentage of institutional revenue derived from tuition. (p. 311)

Fifth .... a state's effort with respect to funding for financial aid as a percentage of total spending for higher education ... positively influences the chance of college completion. (p. 311)

> *Sixth ... a state's expenditures with regard to providing need-based undergraduate financial aid ... helps to further explain differences between states in college six-year completion rates at four-year institutions*. (p. 311)
>
> *Seventh, states in the Northwest and Rockies/Plains regions have lower college completion rates than those in other regions*. (p. 312)

Titus (2006a) suggests, then, that state and institutional level initiatives, funding, and policies have more of an effect on retention and graduation than federal-based aid programmes. Two-year and four-year institutions in the United States, and the governmental agencies who oversee them, are continuing to consider creative approaches to access (Morris, 2005).

3.2 Institutional initiatives

Recognising the value of the retained student, institutions are searching for creative ways to acknowledge the financial stress families face to cover tuition and fees. Two such initiatives are presented, one driven by policy makers and legislators (fixed-tuition) and the other established by institutional mission (work colleges). They are presented here as an example of responses to economic pressures faced by institutions and families of students, not necessarily as a result of research-based decision-making.

3.2.1 Fixed-tuition

A number of institutions in the United States have attempted to address the pressures put on families as they plan for the ever-increasing costs of college. Fixed-tuition plans operate under the principle that once a student enrols he/she will pay the same annual tuition costs throughout their enrolment at that institution. First established at private colleges and universities, these plans have also moved into the public sector in a number of states. Both Illinois and Georgia, for example, require all public institutions to offer fixed-tuition for at least the first four years of enrolment.

This approach is meant to offer parents and students better predictability of their costs of education, as well as to increase the likelihood that a student who begins at an institution under that plan will remain there. The systems have resulted in some unintended consequences, however, to both families and campuses (Witthuhn and Carson, 1997). Since the costs are often adjusted in the first year to account for rising budgetary responsibilities in subsequent years, families are not always eligible for adequate financial aid. Additionally, those students who are already at risk in relation to persistence and success are not necessarily protected by these plans. Morphew (2007) presents the argument:

> *Advocates of fixed-tuition plans argued that this pricing model may encourage more students to persist and graduate. That is, students who know their tuition costs will not increase if they complete their college degree in four years will be more*

> *likely to work hard and graduate on time. This claim may have some validity, but its worthiness as an argument in favor of fixed-tuition plans pales in comparison to the robust empirical evidence that researchers have compiled concerning the relative persistence rate of privileged students and those from underrepresented groups. This evidence strongly suggests that fixed-tuition plans will further disadvantage the already disadvantaged*. (pp. 38-39)

A high percentage of underprepared students require longer than four years to earn a college degree. Since upper division courses often cost more per credit hour then lower division courses, students who change majors or move more slowly through the curriculum are placed at a financial disadvantage during the most important finishing semesters.

3.2.2 Work colleges

As of 2009, seven institutions in the United States have specific missions that address the affordability challenges for families: these are known as *work colleges*. At these institutions, all students 'work' for their tuition, regardless of financial need. The work is not optional – it is mandatory, and the institutions view the requirement as a critical element in the educational process. The work is integrated into the academic lives of the students, and the number of full-time staff working at the institutions is greatly reduced.

The seven work colleges are full or associate members of the Work Colleges Consortium (http://www.workcolleges.org/):

- Alice Lloyd College in Pippa Passes, Kentucky;
- Berea College in Berea, Kentucky;
- Blackburn College in Carlinville, Illinois;
- College of the Ozarks in Point Lookout, Missouri;
- Ecclesia College in Springdale, Arkansas;
- Sterling College in Craftsbury Common, Vermont;
- Warren Wilson College in Asheville, North Carolina.

Berea College, for example, serves primarily low-income families in the Appalachian region of the United States: "Berea College is distinctive among institutions of higher learning. Founded in 1855 as the first interracial and coeducational college in the South, Berea charges no tuition and admits only academically promising students, primarily from Appalachia, who have limited economic resources. Berea's cost of educating a student exceeds $23,000 per year. Berea offers rigorous undergraduate academic programs leading to Bachelor of Arts and Bachelor of Science degrees in 28 fields. All students work at least 10 hours per week in campus and service jobs in more than 130 departments". (http://www.berea.edu/about).

According to the Berea College Fact Book, retention from first year to second year has remained relatively stable over the last ten years at about 80%, with a six-year graduation rate of around 64%. (http://www.berea.edu/ira/documents/factbook0809.pdf).

These figures are considered high nationally, especially given its diverse and often underprepared population. They represent a significant increase over the preceding decade, when the first-year to second-year retention rate was about 65% and the graduate rate 45% (Hamilton, 2005). In addition to the financial benefits, programmes and services at the college specifically addressed challenges and barriers to success. This intentional support for students has been attributed to the rise in persistence and graduation rates at this institution, but there is little empirical research to evaluate the impact of the mission of institutions on retention.

Higher education in the United States has long been seen as a pathway to success. Individuals who avail themselves of educational opportunities to go through the many types and sizes of institutions are generally positively affected both personally and professionally. However, rising costs and diminishing support represent an alarming trend in the level of access afforded to United States' citizens.

Literature Reviews

1. Kuh, G.D., Kinzie, J., Buckley, J.A., Bridges, B.K. and Hayek, J.C. (2007) *Piecing together the student success puzzle: Research, propositions, and recommendations.* ASHE Higher Education Report (Volume 32, No. 5). San Francisco, CA: Jossey-Bass.

   A comprehensive, yet concise report that includes the major theoretical perspectives on student success in college, a synthesis of the major research related to "students' background and precollege experiences, students' postsecondary activities emphasizing engagement in educational purposeful activities, and postsecondary institutional conditions that foster student success" (p. vii). It concludes with seven propositions about student success directed toward institutional programmes and services, and recommendations for further study.

   See http://www3.interscience.wiley.com/ for access to the ASHE Higher Education Report. This special edition is Volume 32, Number 5 (2007).

2. Seidman, A. (ed.) (2005) *College student retention: Formula for student success.* Westport, CT: American Council on Education and Praeger Publishers.

   This comprehensive book addresses a number of areas critical to the study of retention. The chapters cover the breadth and depth of the retention literature in the United States. Chapter 1 explores the history of the retention movement in the United States. Chapter 2 presents measures of persistence from a number of perspectives. Chapter 3 addresses the various retention theories and expands those theories to match the different avenues students use to pursue education. Chapter 4 explores current definitions of retention and their significance. Chapter 5 examines reliable retention research that posits positive, neutral, and negative results; this chapter also includes a number of studies as examples. Chapter 6 looks at the little-studied area of retention and graduation beyond the first year. Chapter 7 explores the pathways students take to achieve a four-year degree, and nine terms of student retention are examined in Chapter 8. The effects of income, race, gender, and institutional type on student retention are examined in Chapter 9. Chapter 10 focuses on the financial implications of student retention. Finally, the Seidman formula for student success is presented in chapter 11. This formula creates an action plan and explains what colleges can do now to effect change and to retain students until they complete their academic and personal goals (pp. xiii-xiv).

3. Metz, G.W. (2002) *Challenges and changes to Tinto's Persistence Theory*. Paper presented at the Annual Meeting of the Mid-Western Educational Research Association. Columbus, OH, 16-19 October 16-19. ED 471 529.

A review of four decades of research on student persistence, anchored by Tinto's original theories on departure and integration. Metz's synthesis includes conceptual similarities and criticisms of Tinto's 1975 model using prior and subsequent research, as well as an examination of a number of variables that have moved in and out of the literature.

4. Hutto, C.P. (2002) *A critical review of the literature on student services and retention.* Educational Resources Information Center (ERIC) Document. ED 468 373.

   This article presents a review of literature on topics in theoretical frameworks relevant to the interrelated concerns of student services and freshman retention. The first section identifies information related to the stages, processes, and perspectives from which student services personnel interact with students. A second section focuses on Chickering's (1969; Chickering and Reisser, 1993) model of psychosocial development, providing insights into the stages and tasks many undergraduate students experience in their college career. A third and final section presents explanations and applications of theoretical models relative to retention: Astin's (1985) theory of student development and Tinto's theory of student departure (1975). These complementary models identify and explicitly describe aspects of the institutional environment that link retention to student services.

5. Muraskin, L. and Lee, J. (2004) *Raising the graduation rates of low-income college students.* Washington DC: The Pell Institute for the Study of Opportunity in Higher Education.

   Included within the report of an intensive study of factors related to retention is a comprehensive review of the literature on "what is known about how institutions can improve student retention and graduation," including "five important elements needed to complete college: academic skills, financial support, academic direction, instruction and academic support, and campus participation" (p. 17). The study of ten institutions revealed a systematic and replicable approach to examining student success issues through a policy and practices lens.

6. Pascarella, E. and Terenzini, P. (2005) *How College Affects Students: A Third Decade of Research. Volume 2*. San Francisco, CA: Jossey-Bass. Note: description as written by Dr. Robert Jones (2008).

   This is an extensive review (848 pages) of US literature about the impacts of college on students, and much of it is highly relevant to student retention and success. In this second volume the authors review their earlier findings and then synthesise what has been learned since 1990 about college's influences on students' learning. The book also discusses the implications of the findings for research, practice, and public policy.

7. Pascarella, E. and Terenzini, P. (1991) *How College Affects Students: Findings and Insights from Twenty Years of Research.* San Francisco, CA: Jossey-Bass. Note: description as written by Dr. Robert Jones (2008).
   This is a large review of US literature which synthesises research findings about the influence of college on students – it includes approximately 3,000 references. Chapter 1 provides a detailed discussion of the evolution of research on college outcomes as an area of study, outlines the conceptual framework that guided the review, and provides a general overview of the study. Chapter 2 summarises the major theoretical models of college effects on student change. Chapters 3 and 4 address the influence of college on learning and cognitive development including the development of generalisable intellectual skills and analytical competencies. Chapters 5 through to 8 deal with the influence of college on various dimensions of personal growth and change, including aspects of students' relational systems, their self-systems, their cultural, intellectual, educational, occupational, political, social, religious values and activities, and their gender role orientations. Chapters 9 through to 11 deal with the influence of college on the socioeconomic attainment process, primarily for educational, occupational and economic attainments. Chapter 12 synthesises what is known about the long-term impact of college on the quality of life, including such factors as subjective well-being, marriage, family planning, consumer activities, savings and investment behaviour, and leisure. Chapter 13 summarises the total body of evidence pertaining to what is known about the impact of college. Finally, Chapter 14 discusses implications of the evidence for institutional practice and public policy, specifically for academic and student affairs policy formation, and state and federal policy. A technical appendix addresses in detail some of the major methodological and analytical issues in assessing the influence of college on students.

8. The *Journal of College Student Retention: Research, Theory & Practice* (Editor, Dr. Alan Seidman) is devoted exclusively to research on retention, and therefore represents current literature on the topic, as well as a number of meta-analyses:

   The Journal of College Student Retention: Research, Theory & Practice is a scholarly refereed quarterly journal. The volume year publication schedule is May (1), August (2), November (3), February (4).

   The Journal of College Student Retention: Research, Theory & Practice is intended to provide the educational community, federal and state governmental officials and the general public a medium to exhibit and explore the complex issue of student retention and attrition. The Journal will feature articles pertaining to current and new theoretical constructs and current research on student retention and attrition in higher education. In addition, the Journal will provide practitioners an avenue to highlight and disseminate current practices, programs and services, which help students persist.
   (http://www.cscsr.org/retention_journal.htm)

Implications for policy and practice

This review of US literature indicates that, as in the UK, there is concern about the persistence, progression and success of students in higher education. Similarly, the emphasis in both countries is on how institutions, as opposed to the national system, should respond to improve institutional retention rates. The key messages from the US work echo those of research undertaken in the UK, and vice versa. However, the US literature provides schematic models and ways of thinking about retention and success, which are helpful, and the synthesis offers insights into institutional responses to students leaving early in the context of these theoretical models. In particular, the development of models and practices related to student engagement is relevant and timely in the UK context. Drawing on this synthesis of research findings, the following recommendations for UK practitioners and policy makers have been generated collaboratively between colleagues in the US and the UK.

Policy recommendations for institutions:

1. Pay greater attention to nomenclature, and be clear about institutional priorities in this area. Opting to focus on student engagement, retention, progression, achievement or success could have different implications for the strategic and operational approaches adopted and the key performance indicators used. To determine your institutional priorities, definitions and understanding, promote campus-wide discussion involving all levels of the organisation in this process to encourage shared understanding, ownership and engagement to develop a set of appropriate definitions for your institutional context.
2. Retention is an institutional responsibility, and while the literature is vast in describing programmes, services, and initiatives designed to address student success and persistence, there is a much smaller body of rigorous research on the outcomes of those initiatives. Research-based decision-making must be promoted and rewarded at all levels of the institution for all members of staff.
3. Recognise the relationship between national/institutional data and trends and individual student experiences. Decision-makers need to find more sophisticated, systematic ways to turn data into information – to properly define, create, and understand complex data points related to learning and development. It is clear that in practice students will benefit when all policy-making entities work together to address the best interest of individual students and society.
4. Use institutional data, surveys and qualitative research to understand which students are leaving, from where and when. This should include disaggregating data to understand gaps in retention by different groups of students. Use this intelligence to inform institutional priorities and interventions.
5. Continuously review institutional strategies, approaches, interventions and resources to check that they contribute effectively to your institutional priorities. Impact evaluation processes and plans for collection and use of evidence to inform practice should be built into every intentional intervention and strategy.
6. Recognise that student engagement leads to increased persistence and success, and use more than one method to promote active learning strategies in the classroom and across the institution.

7. Engage departments and services across the institution in improving student retention. For example, clarify the retention officer's role (if there is such a position on campus) towards keeping others informed, advising the process, the co-ordination of institutional activities and promoting collaboration, rather than being solely responsible for retention (i.e. co-ordinated decentralisation). All institutional representatives have a role to play in the academic success of students.
8. Ensure that learning and teaching is directed towards student engagement, progression and success (see below).
9. Incentivise or require schools, departments, programmes and courses to actively manage their own student success agenda and relevant indicators of effectiveness.
10. Evaluate the impact of activities to support retention and success, focusing on questions that are outcomes oriented, leading to evidence of skills, abilities, and dispositions.

Recommendations for learning and teaching:

1. Student engagement and active learning needs to be at the heart of learning and teaching, especially as some students do not easily get involved with educationally purposeful behaviours outside of the classroom.
2. Whole institution attention needs to be given to transition and the first-year experience to promote student adjustment and integration in higher education.
3. Encourage the development of learning communities across the institution that include all students, according to their unique needs.
4. Create structures that enable students to interact with academic members of staff, e.g. via small group teaching, personal tutoring etc.
5. Ensure sufficient and appropriate staff development opportunities to engage and support learning practices.

Recommendations for governments and funding councils:

1. Emphasise that student learning, relevant educational experiences, personal priorities, and continual success is an individual phenomenon that leads to higher retention rates at the institutional level, not the other way around.
2. Develop and clarify definitions of effective learning, student engagement, retention, progression, achievement and success that can be used to inform institutional approaches to student persistence.
3. Retention should be viewed as just one measure of effective student learning rather than the primary one, or the sole objective. Develop a range of meaningful indicators to measure effective learning of which retention is just one.
4. Recognise and communicate the complexity that underlies the data point of retention, and work with institutions to develop a more complex understanding of the underlying issues.
5. Work with institutions to set more aspirational goals regarding persistence and success, and support institutions to respond to these goals consistently across time through strategic planning, implementation and evaluation processes.
6. Introduce a tracking system that takes institutional transfer into account, and does not penalise longer periods of absence from the HE system.
7. Explore ways to recognise diversity in the system that do not unduly penalise institutions recruiting students from more diverse backgrounds.

Practical applications

In addition to those named previously, presented here are a few other projects or reports aimed at improving student persistence, or factors that contribute to the effective retention and success of students in higher education.

1. State-wide articulation agreements

   A number of states have developed articulation agreements designed to increase the probability and ease of vertical transfers from two-year to four-year institutions, thereby promoting and encouraging student persistence. These programmes attempt to streamline the curricular process, especially for those students completing an Associates degree. Approximately 30 states have written transfer and articulation policy into legislation, and 40 states have established state-wide co-operative agreements among institutions or departments. About half of the 50 states have developed a common core of required courses that satisfy some general education requirements. The National Center for Education Statistics reports that in the fall of 2000, 48% of all community college students were enrolled in just five states (California, Florida, Illinois, New York, and Texas). Wellman (2002) reported, however, that there had been "little research concerning the role, if any, of state policy in influencing 2/4 transfer performance" (p. vi).
   This collaboration between the legislature and educational administrators is designed to reduce some of the barriers students face in dealing with complicated curricula (NCES, 2009). For example, on the issue of more effective and efficient transfer between two-year institutions and four-year institutions, Wellman (2002) presented eight recommendations for state-wide policy makers:
   1. develop baseline information on state-wide transfer performance, including retention and graduation of transfer students (p. 45);
   2. clarify state policy and plans for 2/4 transfer, and set goals and measures for 2/4 transfer performance (p. 46);
   3. identify and invest in core resources for transfer (p. 46);
   4. perform state-wide transfer policy audits (p. 47);
   5. forge articulation and credit transfer agreements (p. 47);
   6. focus on low-performing institutions (p. 47);
   7. use financial aid as a tool to promote 2/4 transfer (p. 47);
   8. include private institutions in transfer planning and performance accountability (p. 48).

   However, using Wellman's recommendations (among others) as a foundation, Anderson *et al.* (2006) studied the effectiveness of state-wide articulation agreements on the probability of transfer and found that "statistically speaking, [students have] the same probability of transferring from a community college to any four-year college or

university as a student who enrolls in a state without such an articulation agreement" (p. 276). Not surprisingly, "student aspiration and goals" has more of an effect on the probability of transfer than structural components.

2. ACT policy report: *The Role of Academic and Non-academic Factors in Improving College Retention*

   This study "builds on expensive ACT research on retention that includes three national studies on retention practices, six national studies on academic advising, and 20 years of data collection and reporting of college retention and degree completion rates through ACT's institutional data questionnaire" (p. v). Not surprisingly, results suggest that both academic and non-academic factors relate to college retention and performance, and no one intervention strategy is likely to meet the needs of all. Specifically, the authors of the report recommend that colleges and universities:
   - determine their student characteristics and needs, set priorities among these areas of need, identify available resources, evaluate a variety of successful programmes, and implement a formal, comprehensive retention programme that best meets their institutional needs;
   - take an integrated approach in their retention efforts that incorporates both academic and non-academic factors into the design and development of programmes to create a socially inclusive and supportive academic environment that addresses the social, emotional, and academic needs of students;
   - implement an early alert, assessment, and monitoring system based on high school GPA, standardised test scores (such as the ACT), course placement tests, first semester college GPA, socioeconomic information, attendance records, and non-academic information derived from formal college surveys and college student inventories to identify and build comprehensive profiles of students at risk of dropping out; and
   - determine the economic impact of their college retention programmes and their time to degree completion rates through a cost-benefit analysis of student drop-out, persistence, assessment procedures, and intervention strategies to enable informed decision-making with respect to types of interventions required – academic and non-academic, including remediation and financial support.
     (pp. 21-24)

   ACT policy reports can be viewed and printed from ACT's website: www.act.org/research/policy/index.html.

3. Project DEEP (Documenting Effective Educational Practice)

Sponsored by the NSSE Institute (National Survey of Student Engagement), a team of researchers conducted an immersive study of 20 campuses that had participated in the NSSE and had scored better than predicted across some or all of the five benchmarks of effective educational practice level of academic challenge, active and collaborative learning, student interaction with faculty members, enriching educational experiences, and supportive campus environment. They also reported graduation rates "higher than predicted after taking into account relevant student and institutional characteristics" (Kinzie and Kuh, 2004).

The findings suggested that four conditions stood out and serve as a prescriptive formula for all institutions desiring to improve the quality of the educational experiences that have a direct impact on student persistence and success:

- Leadership: "What is common among high performing schools is that a mix of administrators, faculty and staff members, and students work together to set direction and to create and maintain student success efforts" (p. 3).
- Partnerships between academic and student affairs personnel: "... a strong sense of respect exists among faculty, academic administrators, and student affairs staff. Collaboration among all parts of the institution flows from a sense of purpose about what needs to be accomplished from a widely held understanding of the institutions operating principles" (p. 4).
- Student agency: "DEEP schools create structures for shifting responsibility for the student experience to the students themselves. ... At most DEEP schools, students' behavioral norms have evolved toward taking greater responsibility for the experiences they have during college," for example, through peer teaching and tutoring, and shared responsibility for campus governance (p. 6).
- The power of one: "All DEEP colleges and universities employ individuals who informally add a special dimension to the student experience. Their presence encourages their colleagues to perform at higher levels and they routinely energize those with whom they interact – students, faculty, staff, and others ... regardless of their formal role, these individuals take a significant contribution to student success, showing the tremendous difference one person can make in the life of a campus" (p. 7).

4. National initiatives

Achieving the Dream (http://www.achievingthedream.org/)

Achieving the Dream is a multiyear national initiative to help more community college students succeed. The initiative is particularly concerned about student groups that traditionally have faced significant barriers to success, including students of color and low-income students.

A multiyear national initiative with more than 80 institutions in 15 states, Achieving the Dream acts on multiple fronts. The initiative:
- *Provides planning and implementation grants to colleges and state policy efforts;*
- *Helps colleges develop and implement strategies to improve student success and build a culture of evidence in which decisions are based on data about student achievement;*
- *Conducts research about effective practices and student achievement at community colleges;*
- *Works to influence public policy so it supports colleges' improvement efforts;*
- *Engages communities, businesses and the public.*

Participating colleges enroll high percentages of low-income students and students of color, who are less likely to attain their educational goals. These colleges are working to close achievement gaps while maintaining open access and increasing student success overall. To do so, colleges [commit to making] lasting changes in their practices and cultures.

Access to Success Initiative (A2S) – National Association of System Heads
(http://www.nashonline.org/Access2Success.html)

The Access to Success Initiative (A2S) is a voluntary effort among NASH systems committed to setting clear goals to close the historic gaps in college access and success between students of different racial and economic backgrounds. Launched in 2007, this voluntary effort, conducted with the support of The Education Trust, brings together participating system leadership teams to learn from one another and outside experts on critical action steps, including setting goals, building public support and momentum for meeting the goals, identifying and mounting powerful action strategies, and publicly reporting progress on a common set of metrics.

The goal of the initiative is to cut in half by 2015 the gaps that separate low-income and minority students from their peers, both in terms of access to postsecondary education and in

terms of successful completion. Twenty-four systems have agreed to participate in the initiative by publicly reporting baseline and progress data on common metrics and to share their collective resources and expertise through working groups. Collectively, A2S systems enroll more than three million students – almost 40 percent of undergraduates attending public four-year colleges and universities and 20 percent of those attending all public two-year and four-year colleges.

This initiative is about system change, not about more programs. Each of the systems bears the costs of implementing its own change strategies. However, outside resources are critical to allow the participating systems to gain access to experts in the field and to share with and learn from one another in ways that make success more likely. Two foundations, Lumina Foundation for Education and the Bill & Melinda Gates Foundation, have provided grants to support the cross-system collaboration.

5. Disciplinary-based reports

Students Who Study Science, Technology, Engineering, and Mathematics (STEM) in Postsecondary Education (http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2009161)

Published in 2009 and using data from the 1995-96 Beginning Postsecondary Students Longitudinal Study (BPS:96/01), this Statistics in Brief focuses on undergraduates who enter STEM programs and examines their characteristics and postsecondary outcomes (persistence and degree completion) several years after beginning postsecondary education.

Findings include:

- *Twenty-three percent of 1995–96 beginning postsecondary students had majored in a STEM field at some point between their initial enrollment in 1995–96 and about 6 years later, as of 2001.*
- *STEM entrants generally did better than non-STEM entrants in terms of bachelor's degree attainment and overall persistence.*
- *Among all STEM entrants between 1995–96 and 2001, some 53 percent persisted in a STEM field by either completing a degree in a STEM field or staying enrolled in a STEM field, and the remaining 47 percent left STEM fields by either switching to a non-STEM field or leaving postsecondary education without earning any credential.*

6. A final word from Vincent Tinto

In his often-cited paper, *Taking Student Retention Seriously,* Tinto (2006) articulated five conditions for student retention:

- *First, students are more likely to persist and graduate in settings that expect them to succeed...;*
- *Second, students are more likely to persist and graduate in settings that provide clear and consistent information about institutional requirements and effective advising about the choices students have to make regarding their programs of study and future career goals...;*
- *Third, students are more likely to persist and graduate in settings that provide academic, social, and personal support...;*
- *Fourth, students are more likely to persist and graduate in settings that involve them as valued members of the institution...;*
- *Fifth, and most importantly, students are more likely to persist and graduate in settings that foster learning.*
  (pp. 2-3)

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Other relevant portals and websites

1 Data sources

1.1 National Center for Educational Statistics (NCES)

http://nces.ed.gov/

The US Department of Education oversees the National Center for Educational Statistics (NCES), which is the "primary federal entity for collecting and analyzing data related to education" at all levels. Specifically, the Education Sciences Reform Act of 2002 (PDF 166KB) established the Institute of Education Sciences (IES - http://ies.ed.gov/) within the US Department of Education. IES brings "rigorous and relevant research, evaluation and statistics" to the nation's education system overall.

1.2 Integrated Postsecondary Education Data System (IPEDS)

http://nces.ed.gov/ipeds/

IPEDS is the "primary source for data on colleges, universities, and technical and vocational postsecondary institutions in the United States ... It is a system of interrelated surveys conducted annually by the US Department's National Center for Education Statistics (NCES). IPEDS gathers information from every college, university, and technical and vocational institution that participates in the federal student financial aid programs. The Higher Education Act of 1965, as amended, requires that institutions that participate in federal student aid programs report data on enrollments, program completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid. These data are made available to students and parents through the College Navigator college search Web site and to researchers and others through the IPEDS Data Center."

1.3 Internet resources for higher education outcomes assessment

http://www2.acs.ncsu.edu/UPA/assmt/resource.htm

The Office of University Planning & Analysis at the North Carolina State University maintains the most comprehensive and dynamic set of resources on all things related to assessment of student learning and development, retention, and student success. The site include general resources, assessment handbooks, assessment of specific skills or content, individual institution pages for retention, success, and assessment initiatives and reports, information about state boards and commissions, and accrediting bodies.

2 Professional organisations with specific interests in persistence and success issues in higher education

There are a number of national and international professional organisations that provide a forum for researchers to address a wide range of educational issues. The following are noted due to their specific and formal interest in student persistence and success:

2.1 American College Personnel Association (ACPA)

http://www2.myacpa.org/index.php

> *American College Personnel Association (ACPA), headquartered in Washington, D.C., is the leading comprehensive student affairs association*

that advances student affairs and engages students for a lifetime of learning and discovery.

Vision: *ACPA leads the student affairs profession and the higher education community in providing outreach, advocacy, research, and professional development to foster college student learning.*

Mission: *ACPA supports and fosters college student learning through the generation and dissemination of knowledge, which informs policies, practices and programs for student affairs professionals and the higher education community.*

Core Values: *The mission of ACPA is founded upon and implements the following core values:*

- *Education and development of the total student.*
- *Diversity, multicultural competence and human dignity.*
- *Inclusiveness in and access to association-wide involvement and decision-making.*
- *Free and open exchange of ideas in a context of mutual respect.*
- *Advancement and dissemination of knowledge relevant to college students and their learning, and to the effectiveness of student affairs professionals and their institutions.*
- *Continuous professional development and personal growth of student affairs professionals.*
- *Outreach and advocacy on issues of concern to students, student affairs professionals and the higher education community, including affirmative action and other policy issues.*

2.2 Association for Institutional Research (AIR)

http://www.airweb.org

Mission: *The mission of the Association for Institutional Research (AIR) is to support members in their efforts to continuously improve the practice of institutional research for postsecondary planning, management and operations, and to further develop and promote the institutional research profession.*

Institutional researchers are typically responsible for maintaining official student information systems on college campuses and often co-ordinate data-gathering, tracking, and reporting activities on student persistence and success. A significant amount of the national research on trends and enrolment patterns is conducted and presented by institutional researchers.

2.3 Educational Policy Institute
http://www.educationalpolicy.org/

> *Mission: To expand educational opportunity for low-income and other historically-underrepresented students through high-level research and analysis. By providing educational leaders and policymakers with the information required to make prudent programmatic and policy decisions, we believe that the doors of opportunity can be further opened for all students, resulting in an increase in the number of students prepared for, enrolled in, and completing postsecondary education.*

The Educational Policy Institute hosts a number of national and international events and conferences specifically related to student retention. It also hosts a resource site, *Effective Practices in Student Success* (http://www.educationalpolicy.org/epss/), which "was designed to serve a great need in education by providing a collection of programs and strategies that have shown evidence in encouraging students to succeed in postsecondary education, especially those who are historically underrepresented in higher education."

2.4 National Academic Advisors Association (NACADA)
http://www.nacada.ksu.edu/

> *The National Academic Advising Association (NACADA), promotes and supports quality academic advising in institutions of higher education to enhance the educational development of students. NACADA provides a forum for discussion, debate, and the exchange of ideas pertaining to academic advising through numerous activities and publications. NACADA also serves as an advocate for effective academic advising by providing a Consultants Bureau, an Awards Program, and funding for research related to academic advising.*
>
> ***Vision:*** *NACADA is the leader within the global education community for the theory, delivery, application and advancement of academic advising to enhance student learning and development.*

Along with a comprehensive website of resources and reports related to persistence and retention, NACADA hosts regional and annual conferences and webinars that address the topic. For example, on 9 September 2009, a webcast was delivered entitled, *The Role of Academic Advising in Student Persistence*. Copies are available on the NACADA website.

2.5 NASPA: Student Affairs Administrators in Higher Education
http://www.naspa.org/

> ***Mission:*** *To provide professional development and advocacy for student affairs educators and administrators who share the responsibility for a campus-wide focus on the student experience.* ***Vision:*** *NASPA – as the leading voice for student affairs administration, policy, and practice – affirms the commitment of student affairs to educating the whole student and integrating student life and learning.*

2.6 National Resource Center for the First-year Experience and Students in Transition

http://www.sc.edu/fye/

> ***Mission:*** *The National Resource Center for The First-Year Experience and Students in Transition has as its mission to support and advance efforts to improve student learning and transitions into and through higher education. We achieve this mission by providing opportunities for the exchange of practical, theory-based information and ideas through the convening of conferences, teleconferences, institutes, and workshops; publishing monographs, a peer-reviewed journal, an electronic newsletter, guides, and books; generating and supporting research and scholarship; hosting visiting scholars; and administering a web site and listservs.*

2.7 National Center for Higher Education Management Systems(NCHEMS)

http://www.nchems.org/

> *The NCHEMS Information Center for State Higher Education Policy-making and Analysis (The Information Center) provides state policy-makers and analysts timely and accurate data and information that are useful in making sound higher education policy decisions. The Information Center is a comprehensive "one-stop-shop" for state-level higher education data and information, and a leader in coordinating the collection of missing data and information that are crucial for higher education policy analysis.*

NCHEMS also supports the Center for State Policy on Student Progression (C2SP), which:

> *provides a central resource for policy makers to understand and shape increasingly complex patterns of student flow into and through post-secondary education in order to maximise educational attainment and appropriate employment for students drawn from all income and demographic backgrounds.*
>
> *C2SP provides a single national entity to archive and synthesise policy research on student progression and its associated success factors, disseminate best practice with respect to state policy in this arena, and assist individual states in building and enhancing their capacity to a) understand the dynamics of student progression in their own states and b) develop appropriate local policy approaches to enhancing student success based on known best practices. C2SP conducts regular fifty-state surveys on data resources and policies affecting student success and works directly with states and state consortia to create data tools and archives that enable more comprehensive and effective longitudinal studies of student progress and degree attainment.*

C2SP has three main goals, each of which is designed to address a particular condition of the current state policy environment:

1. *Increase the knowledge base associated with state practices to promote student success.*
2. *Develop tools to help states enhance their policy information infrastructures on student progression.*
3. *Develop and disseminate 'good practice' for state policy to promote student progress and success.*

These goals directly advance access and success in postsecondary education because states exert substantial leverage over institutional and student behaviors through the ways they fund institutions, govern admissions into and transfer among them, structure accountability reporting, manage financial aid systems, and conduct workforce development.

C2SP is supported by a five-year grant to NCHEMS by the Lumina Foundation for Education.

The following papers and reports are available on the NCHEMS web site and related specifically to persistence and retention issues in US higher education:

- State Policies on Student Transitions: Results of a Fifty-State Inventory
- National Survey of State-Level Student Unit Record (SUR) Database Resources
- Multi-State Data Exchange Project
  - Concept Paper
  - Results of Multi-State Data Exchange
- Promoting Researcher Access to State SUR Data Resources
- National Student Clearinghouse Project

2.8 The John N. Gardner Institute for Excellence in Undergraduate Education (formerly the Policy Center on the First Year of College)
http://www.jngi.org/home

Mission: *The Institute, as a non-profit organization serving the public good, plays a unique leadership role in higher education by supporting colleges and universities as they pursue the attainment of excellence in undergraduate education. By focusing its expertise on the development of assessment-based action plans with measurable outcomes, the Institute fosters institutional change by enhancing accountability, coordination, and the delivery of efforts associated with student learning, success, and retention during the undergraduate experience. While the Institute undertakes activities to strengthen all of undergraduate education, it places particular emphasis on special efforts to improve the success of beginning college students.*

The Gardner Institute oversees the Foundations of Excellence® (http://www.fyfoundations.org/). Focused on enhancing undergraduate education and the critical elements of retention, "Foundations of Excellence® is a comprehensive, externally guided self-study and improvement process for the first year. In 2009 the first year self-study was expanded to include a focus on transfer students. The centerpiece of Foundations of Excellence is a model comprised of a set of principles that are termed Foundational Dimensions®. These Dimensions, developed by the Policy Center on the First Year of College and vetted by over 300 four- and two-year institutions, guide measurement of institutional efforts and provide an aspirational model for the entirety of the beginning college experience (initial contact with students through admissions, orientation, and all curricular and co-curricular experiences). These Dimensions also provide an intellectual foundation for the entirety of the undergraduate experience."

Highlights of the Foundations of Excellence Process

Foundations of Excellence is a process that:

- *provides highly cost effective advisory support led by the nation's foremost experts on the first year;*
- *revitalizes a campus's approach to the first year for both first-time and transfer students;*
- *moves the retention conversation to a more intentional focus on educational quality;*
- *is the 'what's next' for many campuses that have already made significant efforts to improve the beginning college experience;*
- *links academic and student affairs in a collegial process;*
- *moves away from a piecemeal, silo approach to the first year toward an intentional coherent approach;*
- *eliminates costly duplication of programs and efforts;*
- *sets priorities for allocation of precious resources and personnel;*
- *rewards collaboration over competition;*
- *provides a visionary blueprint you can use to acquire new sources of external support;*
- *is grounded in more than three decades of reform and research conducted by its principals;*
- *engages faculty, in addition to other constituent groups, in first-year reform efforts by focusing on high-risk courses;*
- *involves institutional research/assessment professionals;*
- *extends beyond unit-level assessment to institution-wide assessment;*
- *utilizes qualitative assessment supported by quantitative data and external support;*
- *can be integrated with accreditation-related assessment measures;*
- *results in a plan for change leading to significant improvement in the first year of college and the transfer student experience.*

Source: http://www.fyfoundations.org/overview.aspx