Persistence and Retention in Tertiary Education

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for

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Abstract

While access to tertiary education has expanded globally due to the massification of higher education, large percentages of students who enter tertiary education never obtain a degree. Many institutions have been working to retain higher percentages of their students through the creation of policies and programs that support students academically, personally, financially, and structurally. This paper provides a meta-analysis of the global practices related to persistence and retention in tertiary education. By providing an overview of these policies and practices used throughout the world, this report offers strategies for practitioners and a framework for policymakers to use when considering areas of growth. The report concludes with recommendations for future practice and research.

Introduction

Over the last 50 years access to tertiary education has grown throughout the world. As public demand increased and countries found that tertiary education was essential to national development, many countries moved towards massification, or a growth in the number of institutions and spaces in them that are available to more than just the elite in a country. Some countries also moved to an open access model of tertiary education. Between 2000 and 2007 alone, enrollment increased by 52 million tertiary students worldwide (UNESCO, 2009). Social, economic and political change has influenced this growth, particularly the shift to a post-industrial economy, which requires higher levels of educational achievement (Altbach, Reisberg, & Rumbley, 2009). While tertiary education participation has increased in all regions, the highest rate of growth has been in sub-Saharan Africa. Even with this growth the region still has lower percentages of students enrolled in tertiary education than other regions (UNESCO, 2009).
There has also been a rise in female enrollment, with women achieving parity or surpassing male enrollment numbers outside of sub-Saharan Africa and Southern and Western Asia (UNESCO, 2009).

While the explosive growth in tertiary education means that more students are gaining access to tertiary education throughout the world, there are challenges to this growth including insufficient funding, poor infrastructure, inadequate preparation, lack of resources (e.g., books, supplies, housing) and a culture that does not necessarily support the expansion of tertiary education, particularly in developing countries. While the rates of students who are completing tertiary education are increasing, large percentages of students who enter tertiary education throughout the world never complete a degree. The percentage of students in 2005 from Organisation for Economic Co-operation and Development (OECD, 2009) countries who entered and did not complete tertiary education was at least 30%, with more than 40% leaving before completing in New Zealand, compared to Japan where less than 25% of students who entered did not complete tertiary education. Completion rates are even lower in developing countries. The reasons behind low completion rates are challenges within the tertiary education system, particularly in developing countries, as well as inequities within student populations. While policies such as “access for all” focus on the number of students who participate in tertiary education, there is also a need for policies that focus on “access with success,” or the mechanisms that help students to complete their degrees (Cunningham, 2009).

The priority of this report is to highlight programs and policies that promote the graduation of enrolled students from groups previously excluded from tertiary education, not just those who are the most privileged. Often policies do not exist at institutions concerning these groups, and if they are in place, the policies are often vague and challenging to enforce (AAU,
2006). With the fundamental idea that working to promote equitable completion of tertiary education begins the first day that a student enrolls at an institution and continues until that student is awarded a degree, true equity in tertiary education requires that all students have an equal opportunity to advance through the tertiary education system and successfully complete a degree in order to realize the benefits conferred by a tertiary education credential. Such benefits include more opportunities for career advancement, higher earning potential, and greater likelihood of access to healthcare. Higher rates of graduation also translate to public benefits, insofar as having a more educated population adds to the available knowledge needed for economic growth and development.

This paper focuses on the policies and practices in universities and within government systems that promote tertiary degree completion through persistence. There is also a focus on programs that prevent dropout from occurring and foster continuous enrollment, or retention - particularly for underserved students. While these programs often target a particular group (e.g., women, low-income students), others use a universal intervention approach, thereby reaching a broader population of students. Persistence and retention strategies explored include financial, academic, personal, and structural supports. The report concludes with recommendations for future practice and research.

**Definition of Target Groups for the Report**

This report promotes equity in tertiary education and completion for the following groups:

- Students from low-income groups
- Students who have minority status in their country of residence based on their racial, ethnic, religious, or cultural characteristics
- Students living in rural areas
- Students with disabilities
- Women

The use of the term ‘low-income’ varies by country depending on the average income in the student’s country of residence throughout this report. Since income alone is often variable, particularly with the current economic climate, parental education and occupation, as well as housing, is often a proxy for actual income. Individual countries usually have their own poverty benchmarks, and often use these to determine eligibility for public subsidy. This is often the case in government-funded programs and policies. Universities also develop qualification guidelines for special programs. Given such variation, the report avoids cross-national comparisons of these standards.

The definition of minority status is also country-specific. Some countries may have one or two ethnic minority groups, while others may have a larger number of these groups. Often, these groups are underrepresented in tertiary institutions, both as students and faculty members. Students from these groups often face issues such as a dearth of role models on campus, social isolation, stereotyping and an unwelcoming environment.

Students living in rural areas often have less access to educational institutions, both secondary and tertiary. Literature in the field of retention suggests that rural students may be particularly at-risk of attrition due to weak preparation for tertiary education. In addition, some rural students need to travel far from home in order to enroll in tertiary education and may find it difficult to remain away from home for extended periods of time. These students must therefore adjust to being separated from their families, communities, and cultures, often for extended periods of time due to the cost of travel.
While many students with disabilities are easily identifiable due to an obvious physical disability, many other forms of disabilities go unseen due to the fact that these are psychological or learning disabilities. Students must choose to disclose many of their disabilities, and it depends on how a country recognizes this. Barriers for students with disabilities include faculty attitudes and academic culture, architecture that inhibits physical access, and financial challenges (Wolanin & Steele, 2004).

Women are the final equity group addressed by this project. Historically, women were excluded from much of tertiary education. While numbers of women in tertiary education are growing, there is still completion inequity in some countries, particularly those countries with a smaller population of students enrolled in tertiary education. In Africa, women are the majority of unschooled students, with many excluded from participation in secondary, let alone tertiary education (AAU, 2006). Also, while the numbers of women who complete tertiary education are increasing, women are often centered in fields of education, the humanities, and nursing, while underrepresented in science, technology, engineering and mathematics (STEM) fields. These horizontal equity concerns—across institutions and programs—often are ignored in dialogue focused on vertical equity—the capacity to continue moving upward in the education pipeline.—but are no less relevant in understanding differences in experience and opportunities afforded to groups historically underrepresented in tertiary education.

**Methodology and Limitations**

This paper was formulated based on a search of the literature on persistence and retention on a global level, with a particular attempt to focus on developing countries. Scans were also completed to collect policies and programs that are currently in place in individual countries in order to have practical and “noted” programs to help provide examples of best practices.
Utilizing a global network to contact professionals around the globe to gain information about programs and policies relevant to this project also proved a successful mechanism of research.

The following sources were consulted in development of this report:

- Websites (universities, educational ministries, foundations)
- Books, articles, and scholarly reports
- Policy reports and documents
- Program documents
- Funded program descriptions
- Multiple program and research databases
- Communications with program staff

There were challenges to the data collection. Documentation of existing practices, programs and policies is limited. The majority of programs and policies that have been formally documented tend to be in developed countries (e.g., Great Britain, United States, Australia). These programs are included only when they specifically focus on underrepresented groups. As for developing countries, South Africa has the most formalized documentation of policies and practices. Where possible, examples throughout the paper focus on developing countries. The more detailed examples are provided as bullet points within the text. The scope of the research is also limited to publications and websites that were written in English, or easily translated into English, which also limited the pool of resources.

This report focuses on developing countries and those practices and policies that explicitly target populations currently underserved or underrepresented within a particular country. A key goal of this report is to document global efforts intended to widen successful participation in higher education through effective practices and policies. While our research
uncovered a sizeable body of documentation describing the existence of such efforts, very few program evaluations or impact studies were available, thereby offering very little empirical evidence of a given program’s true impact. Several programs cite limited funds or inadequate program capacity as the reasons behind the absence of formal evaluations. In some cases, programs use anecdotal information to demonstrate effectiveness, though mostly in the form of self-reports. This has implications for replication, as well as for ongoing program improvement. We therefore included United States (U.S.)-based research on the effectiveness of practices while documenting their use globally.

While formal education beyond secondary education exists in multiple forms including vocational education, certification programs, skill courses, or trade programs, this research focuses solely on tertiary institutions where students can receive a baccalaureate degree. In most countries, efforts to widen participation and success in tertiary education are based in equity, with the aim of ensuring that all groups of people have access to the unique opportunities for economic mobility gained through tertiary education. Therefore, without devaluing the benefits derived from vocational or foundation programs, this report focuses on persistence and retention for students attending degree programs at tertiary institutions.

Programs and Practices

A wide body of literature on student persistence in tertiary education suggests that there are multiple barriers to degree completion, particularly for those students from disadvantaged backgrounds. Poor academic preparation for tertiary education, lack of family support, inadequate finances, a weak commitment to degree completion or to a particular institution, feelings of isolation and “poor fit,” lack of role models, competing personal and family
obligations, and poor academic performance may individually or collectively influence a student’s decision to leave an institution before earning a degree (Tinto, 1993; Titus, 2006; Walpole, 2007). To attempt to mitigate these factors, monetary or human resource interventions have been created to increase student persistence at tertiary institutions. These interventions have been implemented in all regions of the world, with particular attention to underrepresented student populations. This report describes interventions implemented by individual institutions or university systems, as well as state-sponsored programs and policies. Throughout this report we only focus on interventions that directly impact students, rather than those programs and policies that may impact student persistence indirectly (e.g., institutional organizational structures or institutional financing).

Persistence and retention are often used interchangeably in discussing tertiary education graduation rates. In this report, persistence refers to individual students who enter an institution of tertiary education, and stay at that institution until they obtain a degree. Retention refers to an institution and its ability to continuously enroll students through graduation with a degree. While some literature differentiates between types of persistence and retention -- course to course, year to year, or enrollment to degree completion -- we believe that all policies and programs focused on one of these particular types still promotes the path to eventual degree completion, so we do not differentiate by type in this way throughout the report. The programs and practices covered in this report to support persistence and retention are divided into four sections; financial, academic, personal, and structural.
Financial Support

With the massification of higher education, the costs associated with the provision of tertiary education have increased in most countries. Traditionally, public revenue has covered these costs, but economic changes have shifted the cost burden to institutions, which are increasingly dependent upon non-public revenues such as tuition and other fees. Fewer available resources means more crowded classrooms, outdated technology, and relying on part-time or underprepared faculty. In order to prevent as many of these cuts as possible, public institutions have turned to cost-sharing, which shifts at least some of the higher education costs from the government and taxpayers directly to students. This often comes in the form of charging for tuition, fees, room and board. For countries that were already charging tuition, these prices have increased rapidly; many countries that did not previously charge tuition have started to do so. At universities in countries that do not charge for student tuition, there have been increases in student fees, particularly in the areas of room and board. However, while institutional funding systems can promote persistence, they are not the focus of this report. Rather, we have chosen to focus on financial support policies that provide direct support to individual students.

Need-based Scholarships

With the rise of tertiary education tuition and fees, low-income students are more likely to leave tertiary education for financial reasons. For low-income students who do stay, many seek employment or increase their work hours. Low-income students who receive financial aid are more likely to persist through graduation (Rowan-Kenyon, Blanchard, Reed & Swan, 2009). One type of financial aid that is most beneficial to low-income students is need-based scholarships. These scholarships are awarded to students based on an income formula developed by the scholarship provider, whether it is a country, district, or institution. The literature has
documented the benefits of need-based aid that does not need to be paid back by students. By basing scholarship decisions on income, institutions can recover costs by charging higher income students more tuition, and focus on providing resources and grants to low-income students (AAU, 2006). An example of a need-based national scholarship program is the:

- National Programme of Scholarships for Higher Education (PRONABES) in Mexico. Students who qualify for this national program, funded by taxpayer revenue, receive 12 monthly allowances for up to five years for four-year degree programs, or two years for two-year degree programs. This scholarship can be renewed yearly as long as students meet program grade requirements. Students can use these allowances to assist with tuition, fees, living expenses, and course materials. These scholarships are particularly beneficial because they are also linked to student support programs; institutions that PRONABES students attend are required to have tutoring programs in place and monitor students’ academic progress (Brunner, Santiago, Guadilla, Gerlach, & Velho, 2008).

Two examples of need-based institutional scholarship programs that also consider student achievement are:

- Pontificia Universidad Católica De Chile (Chile) provides a group of students the Premio Padre Hurtado award each year for students who have maintained an excellent academic performance in their secondary school and received high scores on university entrance exams, but who are unable to afford the institution due to their socioeconomic status. The award covers full tuition and over 1,400 students have received this honor throughout the life of this award (Pontificia Universidad Católica De Chile, 2010).

- For 31 years, the Economic Cooperation Program at the Universidad Catolica Andres Bello (Venezuela) is for students who meet the admissions or retention requirements of the institution, who are unable to afford the full cost of tuition. Students can take three courses of action- proportional and deferred pension and scholarship-work. The proportional and deferred pension program is for first-year students and covers cost of tuition in proportion to what they are able to pay. Students who receive this award must commit to supporting the program in the future. Approximately 800 student recipients receive this award each year. Grant-work is for undergraduate students who are unable to pay tuition to work on campus for 20 hours a week in return for a full tuition benefit (Universidad Catolica Andres Bello, 2010).

Some countries also provide funds for tertiary institutions to provide grants to other groups of underrepresented students. Australia, Chile and China provide scholarships for low-
income indigenous students from rural areas, while Japan and New Zealand offer special scholarship programs for students with disabilities (Santiago, Tremblay, Basri, & Arnal, 2008). The Université Catholique d' Afrique Centrale in Cameroon provides institutional scholarships to female students with few resources in order to promote equity on campus (Ng’ethe, Assie-Lumumba, Subotzky & Sutheland-Addy, 2003). Such programs, while beneficial, are not without challenges. Among the issues faced by these programs are: demand outpacing funding, and the fact that these programs are often dependent upon legislative support in order to continue from year to year.

**Loans and Work-back Programs**

Another financial support mechanism available to students to help aid in their persistence is loan programs. While students have to repay loans, it is assumed that students who complete tertiary degree programs will earn higher wages and thus have the means with which to repay their loans. Some studies have shown that loans have a negative effect on persistence (Dowd & Coury, 2006; Hippensteel, St. John Paulsen & Starkey, 1996), while others have indicated that high levels of student loan debt has a positive effect on persistence (Cofer & Somers, 2000). Some students and families are wary of loans, due to a fear of not being able to repay the loans and/or a fear of not completing tertiary education and still having to repay loans.

There are also programs that have experimented with forgiving loans based on specific behaviors. In South Africa, there is a National Student Financial Aid Scheme in place that allows students who perform well at the university to convert their loans into grants (The World Bank, 2010). Similarly, there are loan forgiveness programs that enable students to have their loans reduced or eliminated altogether by the government if they work in particular areas or
fields. Similarly, work-back programs provide students with financial support in return for a number of years of future work for a government entity or in a specific area of need. One example of a work-back program is the:

- Masakh’iSizwe Centre of Excellence bursary programme in South Africa. This program is organized by the Western Cape Province Department of Transport and Public Works in South Africa and started in 2006. The goal of the program is to develop engineering and environment professionals in South Africa. The Centre works with South African citizens who have been accepted into a participating tertiary institution in the fields of architecture, engineering, construction management, surveying, or town and regional planning. Preference is given to low-income women from rural areas in South Africa. Students receive experiential learning opportunities through participating in service learning in poor communities during university vacations. Students also attend workshops and other events throughout the year. The bursary covers tuition, fees, books and materials, and housing and meals during the term. This can be renewed each year as long as students perform academically and fulfill all program requirements. Students must work for the public service one year for each year of bursary participation (Masakh’isizwe Centre of Excellence, 2010).

Programs such as the one mentioned above provide more than just financial benefits to promote persistence. Work-back programs help students to develop purpose, gain employment after graduation, and develop a skill set through experiential learning opportunities throughout their program. An important caveat to these programs is the requirement to provide some degree of service post degree completion, which must be carried out even in the event that a student shifts their career interests.

Additional Financial Supports

While many students are able to find some form of support for tuition, the additional costs of living and books are prohibitive for some students to remain in higher education. It has been documented in Africa, for example, that many poor students committed to staying in higher education are forced to steal money and books, “squat” in campus residences, and participate in sex work in order to survive (AAU, 2006). Some countries or institutions have supports in place for students to help finance costs beyond tuition that may be barriers to persistence in tertiary
education. In addition, some countries provide housing allowances for low-income students, particularly for those students whose primary residences are far from the institution they are attending. This is key, particularly for students from rural areas and women, who, if they remain at home while going to school, may have the added burden of domestic work, depending on the culture of the country (AAU, 2006).

In some areas, particularly sub-Saharan Africa, there is a shortage of housing for women. The University of Yaoundé I in Cameroon, for example, has expanded access to housing for women on their campus (Ng’ethe, et al., 2003). In Australia, Commonwealth Accommodation Scholarships were created in 2004 to provide financial assistance (AUD 4,324 per year in 2008) to help students from remote and rural areas with accommodation costs for their relocation to a tertiary institution (Santiago et al, 2008). In Israel, the Ministry of Immigrant Absorption’s Student Authority provides housing placements for students, and assistance for rental fees, beyond their grants and loans (State of Israel, 2010). Books are also often in short supply and institutions need to work to help underserved students borrow or access books and course materials. One way that institutions can do this is by making multiple copies of these materials available to students in libraries or study centers.

**Academic Support**

Many first-generation college students, including many low-income and ethnically diverse students, have inadequate preparation for tertiary education due to attending an inadequate secondary school. Academic preparation is a predictor of college persistence. Adelman (2006), for example, found that underrepresented students (i.e., low-SES, ethnic minority) in the U.S. are less likely to attend secondary schools that provide advanced classes
that help to prepare students for postsecondary education. In order for these students to be successful once enrolled in tertiary education, and to facilitate retention and persistence, additional academic support must be provided to them to remedy skill deficits and lack of preparation for tertiary study. Such support is typically offered as a preparatory step prior to enrollment, or concurrent with undergraduate coursework. Academic support programs take a variety of forms, addressing the needs of specific student populations by focusing on language, study skills and content knowledge. The three academic supports that we introduce in this report are developmental education, supplemental instruction, and tutoring.

Developmental Education

Preparatory academic support is referred to as developmental or remedial education, and it is defined as a class or activity intended to meet the needs of secondary school graduates who lack the initial skills or experience needed to perform at the level required by a particular tertiary institution (Grubb, 1999). Students are placed into, or referred to, developmental programs following an assessment process that varies by institution. Some programs use institutionally developed instruments, while others use results from national placement exams. Once admitted to developmental programs, students are enrolled in classes that prepare them to succeed in university coursework. For example, the Academic Bridge Program at Zayed University (ZU) in the United Arab Emirates is designed to help Emirati students become fluent in English, the language of instruction at ZU, and strengthen their academic skills. Similarly, the MySkillsLab project at the University of Venda in South Africa provides an English language development curriculum that students complete on the computer, as well as activities in writing, reading, grammar, and speaking. Likewise, the Access Academy at Asian University for Women in
Bangladesh offers a curriculum focused on English language studies, mathematics and quantitative reasoning, and computer skills training. Finally,

- At the University of Fort Hare in South Africa, the Ford Foundation helped establish a two-year curriculum for educationally disadvantaged students that is incorporated into the institution’s undergraduate agriculture degree program. Through the curriculum, participants acquire the high-level reading, writing, computer, mathematical, and scientific skills required to succeed in the remainder of the agriculture degree program. The initiative has been successful in attracting and retaining students. There were 39 students enrolled in the curriculum its first year, and by the end of the initiative’s third year 155 students were enrolled. The curriculum has also resulted in an increase in the agriculture program’s retention rate. The program has been such a success that the University of Fort Hare is considering using the program as a model for increasing enrollment and persistence in other disciplines (MacGregor, 2008).

Without programs like those mentioned above, students who start tertiary education academically unprepared may never acquire the skills and knowledge needed to be academically successful in, and complete, their required coursework. Challenges related to these programs are that they are expensive to implement and usually do not count towards a student’s degree requirements, potentially lengthening time to degree. If a student does not successfully complete developmental education coursework, they may consequently be derailed from completing a tertiary education degree. Thus, programs that incorporate developmental education into degree requirements, or incentivize participation in developmental coursework, may be more successful in facilitating retention and persistence.

Supplemental Instruction

With time and subsequent costs a consideration, the effective delivery of developmental education, as well as support services, is critical to students’ persistence. One promising strategy for addressing developmental students’ needs involves programmatic intervention. Some institutions offer intervention through “student success centers,” where students can avail themselves of one-on-one tutoring in a variety of subject areas, as well as assistance with note-
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Taking, research skills, and time management (Kuh, Kinzie, Schuh, & Whit, 2005). Other institutions have established intervention programs within specific academic departments in an effort to stem attrition and support within-major persistence. Supplemental Instruction (SI), for example, is an effective strategy that has been used at four-year institutions in the U.S. (Pascarella & Terenzini, 2005). SI, available to all students in “historically difficult” courses rather than just at-risk students, involves interactive group learning led by “model students” who previously performed well in the course. The SI leaders re-take the course with current students, attending classes and taking notes, and then facilitate sessions that focus on study skills and learning strategies. Studies have found that students who participate in SI are more likely to persist from one year to the next. There is some evidence that SI programs are also being implemented outside the U.S.:

- Edith Cowan University in Australia created an SI program within its department of psychology called the Retention and Persistence Support (RAPS) project. This multi-faceted program provides students with support throughout their first year in the School of Psychology and is designed to foster a sense of support and engagement as students transition into college. Between six and 10 first-year psychology students are assigned to second- or third-year peer mentors, with the aim of providing a point of contact for new students. These mentor groups are then combined to form learning communities in order to foster collaborative study groups and friendship networks. Demonstrating the effectiveness of this type of intervention, attrition rates within the psychology program fell from 21.6% to 13% during the first three years of the program (Darlaston-Jones, Cohen, Haunold, Pike, Young & Drew 2003).

These programs provide academic support to help students achieve academic success, while simultaneously building peer networks and confidence in students’ academic abilities, all of which influence persistence and academic success.

Tutoring

While many students participate in developmental education or supplemental instruction as described above, other students can obtain the support they need to persist through less
intensive mechanisms such as tutoring programs. At Monash South Africa, the Johannesburg branch campus of the Australian university, for example, a peer mentoring and tutoring program was established as a strategy to foster persistence among participants in a program for disadvantaged students (Australian Learning & Teaching Council, 2010). These tutoring programs are usually voluntary and are administered out of an academic support center or a learning center, and cover a wide range of academic subjects. Sometimes academic departments, particularly in math and science, coordinate subject-specific programs. Tutoring sessions usually take place at a designated time and location either individually or in small groups of up to five students. Tutors are usually experienced students who have expertise in the area of study or have recently taken a particular course. Students may participate in tutoring through the duration of the course, or participate in a few sessions during the course of an academic term. Students tend to meet with tutors once or twice a week, based on the needs of the student and the availability of the tutor. Two examples of tutoring programs are:

- Hue University’s Pathways program in Vietnam provides tutoring groups and academic coaching for disadvantaged students whose secondary school did not adequately prepare them for college. This program helps to close the academic preparation gap, and helps students to transition to the tertiary education system based on textbook and exam-oriented learning (Young & Chang, 2008).

- At Curry College (U.S.), the Program for the Advancement of Learning (PAL) is designed for bright, college-bound students who are diagnosed with a specific learning disability. This nationally recognized program uses a strengths-based approach to provide students with academic enrichment and support to students who are fully mainstreamed in university courses. Participants, who constitute approximately 25% of an entering class, work in individual or group classes to develop effective strategies in reading comprehension, written language, speaking, listening, organization, and time management. Graduates of PAL have entered a range of careers and graduate programs including law and medicine (Curry College, 2010).

Peer tutoring programs like the one offered at Monash South Africa are especially beneficial in that students develop peer networks while receiving the academic support that is needed, with
the hope that students will also become more socially integrated into the institution. Indeed, based on their study of tutoring programs at tertiary institutions in the UK, Trotter and Roberts (2006) found that higher retention rates are associated with those programs that link students with tutors who recently completed or taught a particular course. The researchers also found that such programs are more successful in fostering retention if students meet with tutors early and often, as this enables tutors and students to develop relationships that provide students with academic and personal support.

### Personal Support

Along with the financial and academic barriers mentioned above, many students need additional personal support after entering tertiary education. Many students, particularly those who are the first in their families to attend college or are from underrepresented groups, may not have a developed network to help them to navigate the social intricacies that exist at most institutions of higher learning. Students may feel isolated and lonely, struggle to adjust to a new place and consider leaving, particularly those students who have moved far away from family and friends in order to attend school. While in school, many students encounter crisis situations that may cause them to consider leaving school for at least some period of time. Other students may choose to enroll in college to have a chance at a better life, but once on campus lack the direction needed in order to successfully complete a degree. In order to help students overcome these barriers, many institutions provide support services to foster students’ social, personal and emotional development in tertiary education. These outside-the-classroom services support the academic mission of the institution and support students’ holistic development during their tertiary education experience. These services vary depending on the institution and can include
advising, career guidance services, mentoring, and counseling. While we found some examples of these supports, it was challenging to find documentation of these efforts in the literature.

Academic Advising

Participating in academic advising can help a student to persist in tertiary education and assist a student along the path to graduation (Pascarella and Terenzini, 2005). By participating in advising, students can choose and plan out a program of study, identify their talents, skills, and options, and learn about enriching experiences at the institution (Goetz, 2004). There are a variety of advising models that can assist students in receiving the guidance they need about their chosen academic curriculum. Some institutions utilize a faculty advising model wherein students are assigned to a faculty member to help the student decide on a course of study at the institution. This model is especially instrumental at fostering relationships between students and faculty members. On the other hand, this strategy may be limiting for those students who are unsure of a chosen field and require more guidance when deciding between multiple areas of study. This model is a challenge at universities where there is high faculty turnover, as is currently the case at institutions in many developing nations, or in departments where faculty members have not been trained to advise students (MacKinnon, 2004). In such cases, students may not have continuous access to advising, or they may be provided with outdated or incorrect information. Other models include an “advising office” or an “advising center” staffed by a combination of administrators or faculty members who work with students to help them make academic decisions. A positive feature of both of these models is the possibility for consistent interaction between advisors and individual students. At the University of Malawi, for example, advisors are assigned to ten students of various class years in order to offer more personalized advising and academic support (Ng’ethe et al., 2003).
• Indira Gandhi National Open University in India provides advising and other support services to students through a network of over 3000 study centers. Advisors are available to work with students on-on-one, helping them navigate university rules, institutional culture, faculty expectations, regulations, and procedures, and also assisting them with academic planning (India.gov.in, 2010). As of September, 2010, 777 study centers focused on disadvantaged groups (Indira Gandhi National Open University, 2010).

Some institutions also offer separate academic advising services for ethnic minority student populations. Such services often combine academic advising with other types of support, such as tutoring and counseling. At the Victoria University of Wellington in New Zealand, for example, liaison officers are available to work with Māori and Pacific Islander students. These liaison officers oversee orientation activities for incoming Māori and Pacific Islander students, and continue to assist students throughout their first year at the university with course selection and degree planning, enrollment advice, scholarship information, and referrals to other student services (Victoria University of Wellington, 2010). Similarly, in an effort to promote academic success among First Peoples, Inuit, and Métis students, Langara College in Vancouver, Washington offers a range of services to Aboriginal students, including academic advising and assistance navigating college programs or services (Langara College, 2010).

One newly emerging academic advising model, which may be particularly useful at institutions that lack the resources or staffing to provide one-on-one advising or establish advising centers, is the virtual delivery of advising services (Nwelih & Cheimeke, 2010). Virtual advising typically includes the development of a comprehensive institutional advising website, with access to personalized assistance via e-mail. Such a practice shows promise for use in the developing world. In Nigeria, for example, researchers found that paper-based advising systems – as well as students’ fears of meeting with advisors -- led to complaints from students about inadequate and incorrect advice on course-taking (Nwelih & Cheimeke, 2010). The researchers
surveyed course-level advisors, as well as students, and found that both groups strongly supported the implementation of a web-based, paperless advising system.

**Career Guidance Programs**

Many students from disadvantaged groups lack social networks that provide advice about future career options or academic programs that can help students to achieve their goals (AAU, 2006). Further, lack of career commitment has been linked to attrition in higher education, which suggests that career development interventions are key to persistence. University-based career guidance programs help students to set goals and develop their future career trajectory, including the required academic pathway. These programs help students identify vocational interests and values, formulate career plans, and seek job and career placement after graduation. Career guidance programs also help students find internship or “field work” placements for which students may be able to earn credit, or help students gain exposure and practical experience within their chosen area of study (MacKinnon, 2004). These programs are often the link between the institution and business and industry partners in the surrounding community. Examples of such programs include:

- The career guidance program at Qinghai Normal University (China), which is part of the Pathways to Higher Education program sponsored by the Ford Foundation, focuses on helping low-income and ethnic minority students gain job-readiness skills by participating in internship programs. Student participants also help with the organization of activities surrounding their career needs (Ford Foundation, 2008).

- Also in China, Guangxi Normal University developed a career center, which provides students with information about internship and job opportunities. The center provides opportunities for students to develop their skills in interviewing for jobs, and provides advice on planning for careers. Since it opened in 2003, the center has helped over 5,000 students obtain jobs, which is beneficial for students to see examples of the career and monetary benefits of completing a college degree (Ford Foundation, 2008).

- The mission of the University of Johannesburg’s (South Africa) Career Center is to promote career development and life planning of students and to help students to connect with potential employers after graduation. In order to fulfill their mission they conduct
student assessments to help students to explore career interests, provide workshops about CV writing, cover letters, and interviews, and have a graduate recruitment program which facilitates networking between students and graduates (University of Johannesburg, 2010).

Counseling Services

Counseling services are offered at many institutions to help students navigate the social and emotional challenges they face during their time at an institution. Many students, particularly those without a developed network at the institution, may struggle with feelings of loneliness or cultural isolation (Reynolds, 2009). Low-income students may feel increased stress related to not being able to help support their families financially while at school. Rural students may struggle with leaving their families and their communities and adjusting to a new place. Counseling services aim to help students cope with these issues as well as manage typical developmental phases common among young adults, which may include mental illness. These services can help students to manage their emotions and try to alleviate some of the concerns that might be affecting their academic performance, and may help them gain confidence to continue at an institution and complete their degree (MacKinnon, 2004; Reynolds, 2009). Some counseling services are created to serve a particular population, while others are open to the entire community. Indigenous Support Centres, offered at many Australian institutions, offer pastoral counseling services for Aboriginal students (Santiago et al., 2008). Another example of focused counseling is:

- The Maori Development Centre at the UNITEC Institute of Technology in New Zealand. Since the Maori are underrepresented in tertiary education, and some reasons for low persistence rates included loneliness and isolation, family responsibilities, and identity issues, opportunities for counseling are made available to students. While this program is oriented towards Maori students, all students have the opportunity to use the center (Benseman, Anderson, & Nicholl, 2003).
Challenges that inhibit institutions from utilizing counseling as a strategy to foster retention are two-pronged. Some institutions may not have enough licensed counselors to meet the need for these services, since employing credentialed counselors can be expensive. This may lead to long wait times between student appointments, and the inability to meet the needs of students who are in crisis situations. In addition, counseling services may be underutilized by students from particularly disadvantaged groups due to cultural stigmas related to participation in counseling (Reynolds, 2009).

**Mentoring**

Many students who are low-income, or members of ethnic minority groups, or who are the first in their families to attend college, have limited access to human resources or networks that help them navigate tertiary education and its complex processes. There is a utility in having these students connected with a mentor – a peer who has successfully navigated the system, or a faculty or staff member who can provide the student with advice and assistance. Mentors facilitate the transfer of institutional knowledge, and may act as a cultural role model for students who are minorities at their institutions (Crisp, 2010). While many students develop these informal relationships on their own over time, formal mentoring systems ensure that students gain this support upon entry, decreasing the likelihood of attrition in the early stages of their college career. Mentors can also learn and grow from these experiences, developing a feeling of mutual support and motivation with their mentee. Some mentoring programs are open to all students, or are targeted towards a particular population (e.g., women, low-income students), while other programs are available to students in specific academic programs. Examples of a mentoring program that targets at-risk students in a particular academic program are:

- Stellenbosch University in South Africa, in an effort to stem the high attrition rate in the institution’s medical sciences programs, established a peer-mentoring program (Page,
Loots & du Toit, 2005). In this program, over 130 advanced students serve as peer tutoring-mentors to first- and second-year students in several specialty areas. Students who are identified as at-risk are divided into groups of six and assigned to a tutor-mentor. The tutor-mentor groups are required to meet for a minimum of two hours each week, focusing on both academic issues (e.g., academic progress, exam preparation) and personal issues such as lack of self-confidence and loneliness. The program showed immediate results, with attrition dropping from 13-18% to below 6% in the first year. Stellenbosch has since implemented a university-wide tutor-mentor program for first-year students, using the medical science program as a model (Stellenbosch University, 2010b).

- As a way to address the gender gap and lack of support for women in Rwandan tertiary education, Kigali Institute of Science and Technology launched a transitional support program for women in 2006 to help address gaps in academic preparation and opportunities in science and technology. Components of the program include peer networking, student monitoring and additional academic support (Randell & Fish, 2008).

- Another example of a mentoring program is the Naadimaagewin program at Trent University in Canada. Administered by the university’s indigenous studies department, the program targets First Peoples, Inuit, and Métis students but is open to all students at the institution. Through Naadimaagewin, upper year and graduate students serve as peer mentors for new students, assisting them with their adjustment to college life by offering academic and social support (Trent University, 2010).

**Structural Support**

Many students struggle with the transition into tertiary education, particularly those students from disadvantaged groups. The literature (Cabrera, Nora, Terenzini, Pascarella, & Hagedorn, 1999) has shown that students who do not feel engaged in, or a part of the institution are more likely to leave school before completing a degree. This section focuses on those institutional programs that facilitate student integration into the institution and assist students in finding supports that will help them to persist towards a college degree. These programs may have some components of the academic and personal support sections described above, but are often multi-faceted programs that help students become integrated and active members of the institutional community. This section also highlights the need for institutional data collection in
In order to be able to best meet the needs of the students in order to be able to provide the appropriate support mechanisms, and to track student progress, or lack of it, at the institution.

*First-year seminars and induction programs*

In order to transition new students into tertiary education and promote retention from start of the first semester, many institutions have offer first-year seminars or induction programs. These programs often target students most at risk for leaving tertiary education, low-income students and ethnic minorities, but are frequently expanded to cover the entire new student population at an institution. Depending on the institution, first-year seminars may be required or available to students as an elective. These seminars usually operate as a course taught by a faculty or staff member in order to help new students become socialized to the academic expectations of the institution. Such courses may be restricted to students within a particular area of study, or open to all new students. The strongest first-year programs are those that last beyond the first week that a student is enrolled at the institution. Students who participate in these courses are more likely to persist in tertiary education and graduate, as well as have better relationships with faculty, better academic performance, and be more satisfied with their educational experience (Pascarella & Terenzini, 2005).

For example, the Equitable Access, Retention and Success Project at the University of Western Cape in South Africa was developed for first-year physics students. The program is designed to facilitate personal, social and academic adjustment to university life (SANTED, 2010). One institution of higher education in Great Britain created a virtual learning environment for students from a variety of backgrounds to fully understand the demands of higher education through an on-line platform. Students are required to participate in this program, but do so on an independent basis, with a personalized study program. This program
was adopted to promote academic skill development while not stigmatizing those from underrepresented groups (Yorke & Thomas, 2003).

- Greensboro College in North Carolina (US) has a special section of their First Year Seminar course for students with documented disabilities. The induction experience and course focuses on self-advocacy, academic advising, and individualized coaching for student needs. In addition, participating students benefit from peer support from one another (Greensboro College, 2010).

**Student Groups**

The establishment of diverse student groups and associations is another approach used by institutions to identify and support the unique needs of disadvantaged students. The literature suggests that the presence of such groups allows for specific student groups to promote a multiculturally-oriented educational opportunity. Building off evidence suggesting the importance of receiving support from one’s ethnic group (Cabrera et al., 1999; Guardia & Evans, 2008), these groups also provide social support, something that has been found to provide a buffer for future hardships. One example is:

- At the University of Winnipeg in Canada, the Aboriginal Student Council was established to provide a voice on campus for First Nations, Métis, and Inuit students. One of the larger student groups at the university, the council conducts cultural and social events throughout the school year, including potluck dinners, movie nights, and an annual pow-wow. Students who are members of the council also have access to resources provided by the university’s Aboriginal Student Services Centre, including computers, printers, and snacks (The University of Winnipeg, 2010).

Other student organizations are focused on volunteering and may be able to help their own students. In Malaysia, Kelab Penyayang is a government initiative to partner with an organization, including those with physical disabilities, so that students can support the organization and to apply what has been learned in their courses (Penyang, 2010). A graduate of the University of Science in Malaysia with cerebral palsy recognized that members of this organization helped to make her time at the institution enjoyable (Egron-Polak & Boisfer, 2010).
Other student groups do not focus on specific student populations, but are focused on all students at the institution in order to build a connection with the institution and to promote the holistic development of students. At Universite Younde I in the Republic of Cameroon, the institution supports cultural clubs and sporting championships with the hope of raising student morale and increasing their sense of purpose at the institution. The University of KwaZulu-Natal in South Africa, as well, promotes student involvement, by recording students’ extracurricular participation in a non-academic transcript (Ng’ethe et al., 2003). It is widely noted in the literature that the more engaged a student is in the life of the institution the more likely they are to graduate, which suggests that institutional support for these students is a promising persistence strategy.

Living-Learning Programs

Additional student support structures that promote retention are living-learning programs. Students participating in these programs live in residential spaces clustered around a particular theme or academic discipline (e.g., women in engineering). Students participate in out-of-the-classroom programming, develop relationships with faculty members, and build an on-campus support system. In some programs students take classes with members of their living-learning program in their residence hall. These programs seek to assist with students’ academic and social transition and integration into the university. They also promote peer and faculty interaction, and promote persistence (Inkelas & Wesiman, 2003).

- Stellenbosch University in South Africa offers Listen-Live-Learn houses and communities on campus. This on-campus living environment provides students with additional educational and service opportunities outside the classroom. Students in this program have the opportunity to engage with peers as well as faculty and visitors to the University. Currently, there are 16 different Listen-Live-Learn communities that address topics such as gender equality, community engagement, and technology. Each house or community has a mentor from the academic staff, is required to embark on community service projects, and hosts guest speakers. Through this program students have leadership
opportunities and the chance to gain training and experience in program and event planning. In addition, students gain confidence and learn the skills needed to build and sustain healthy communities. Each house or community has a mentor from the academic staff, is required to embark on projects that help the community, invite guests for courageous conversation, and has 12 of these per year (Stellenbosch University, 2010a).

Climate and Culture

Issues related to campus climate and culture also act as barriers to retention and persistence. The lack of role models in the faculty, who are women and/or ethnic minorities, as well as small numbers of students from these groups, can create a “chilly” climate for some students. Particularly in regions with marginalized populations that have been underrepresented within tertiary education, institutions are working to make their campuses more welcoming and culturally responsive. Institutions are going about this in multiple ways. Some have established academic and personal support services for specific ethnic groups, while others have undertaken institution-wide initiatives comprised of faculty and staff education, as well as policy and curricular changes. In addition to the direct benefits of these services, the addition of these policies and practices contribute to a culture that affirms the presence of students from disadvantaged backgrounds.

Support services for specific populations are a common feature of many of the programs funded by the Ford Foundation Pathways to Higher Education initiative, a project that is focused on promoting inclusiveness in higher education. Rüpu, a program at the University of the Frontier in Chile, strives to combat the social and educational disadvantages faced by indigenous Mapuche students. The program offers social activities and a dedicated on-campus meeting space, as well as the Academic Support Program for Mapuche Students (PAAEM). Similarly, a Pathways project at the Benemerita Autonomous State University of Puebla, Mexico, offers personal counseling, supplemental language and writing classes, and tutoring for students from
indigenous groups. Programs at both institutions have resulted in higher grades for participating students (Ford Foundation, 2008).

Another way that universities are working to become more culturally responsive is through campus-wide initiatives. Examples of these programs include:

- Rhodes University in South Africa has historically operated as a monolingual (English-language) institution. However, funded by the South Africa-Norway Tertiary Education Development (SANTED, 2010) program, an effort has been undertaken to promote multilingualism in order to facilitate access and retention, particularly among historically disadvantaged and female students. Focal areas of the project include: 1) teaching the isiXhosa language to academic staff members; 2) developing discipline-specific isiXhosa second-language courses; and 3) developing a computer-assisted language learning laboratory.

- Similarly, the University of Cape Town launched the Multilingualism Education Project (MEP), which includes promotion of Xhosa communication skills for staff members and students and the development of academic field-specific Xhosa-English glossaries (University of Cape Town, 2010).

- At Texas A&M University (U.S), the Department of Disability Services created a Faculty Guide to help instructors to meet the needs of students with documented disabilities. Topic covered include: roles and responsibilities of both the faculty member and the students, resources to assist faculty members, and training opportunities for faculty (Texas A&M, 2010).

Curricular Reform

Another way in which tertiary institutions are working to improve campus climate and promote student retention and persistence is through curricular reform measures such as student-centered classroom strategies, curriculum responsiveness, flexible course delivery, and alternative credit-earning structures. Institutions are changing the way that courses are taught, in order to more effectively engage students, and also altering academic programs in order to make them more flexible. Such strategies are not only a way to retain students, but also a means through which institutions can reach out to students whose personal lives necessitate alternative pathways to a tertiary degree.
Traditionally, instructors have served as transmitters of knowledge, and students the recipients of this knowledge. Student-centered classrooms are a departure from this model, with instructors facilitating the construction of knowledge by students. Student-centered teaching, therefore, emphasizes deep learning and understanding, as well as greater accountability on the part of students (Leah, Stephenson & Troy, 2003). If students feel as if they are a part of a student-centered classroom, they may feel more a part of the institution and more likely to persist. Jamaica’s University of Technology, for example, initiated a project aimed at exploring ways in which the quality of the teaching and learning process could be enhanced. A student-centered approach was employed in five traditionally teacher-centered courses, with results indicating that students became more independent learners (George, Craven, Williams-Myers & Bonnick, 2003).

Similar to student-centered teaching, curriculum responsiveness focuses on ensuring that teaching and assessment are accessible to students, as well as developing curricula that meet the needs of employers (Council on Higher Education, 2010). In South Africa, for example, efforts are underway to change the nature of technical and vocational education and training, with an emphasis on communication and technological skills, as well as entrepreneurship (Gamble, 2003). One example is:

- The University of Venda for Science and Technology in South Africa completely restructured the curriculum in order to focus on science and technology as well as to consider regional issues including gender and disability. The University has worked to incorporate indigenous knowledge into the curriculum, including an Institute of Indigenous Knowledge Systems and the inclusion of core courses on African civilization (Ng’ethe et al., 2003).

Another way that some institutions are reforming the curriculum is by developing segmented degree programs or offering classes in remote locations. Kigali Institute of Science
and Technology in Rwanda, for example, has created a cumulative credit system with four levels of completion: Certificate, Diploma, Advanced Diploma and Degree. Each of these may be accomplished separately, but can cumulatively add up toward a degree. This allows a student to leave school at the end of one of these steps, if needed, but return to continue his or her education at another time without being penalized (Ng’ethe, et al., 2003). Such programs recognize the need for more flexible course-taking patterns due to family or financial demands.

Another mechanism used to accommodate students’ lives is offering classes at extension campuses. The University of Ghana, for example, established an academic center in Ghana’s capital city, Accra, which is 13 kilometers from the University’s main campus. The center, which offers courses in a variety of subjects leading to the baccalaureate, is a more convenient location, and offers more flexible scheduling, for students who work in Accra (Ng’ethe et al., 2003).

In addition to offering courses in one or more physical locations, many institutions worldwide also offer courses virtually, through distance education. By delivering courses or entire academic programs by video or computer, universities are able to meet the educational needs of students who may have initially been deprived of – or unable to make use of -- learning opportunities (UNESCO, 2002). Beyond institutions, some nations have also established distance learning initiatives. India, for example, established Indira Gandhi National Open University in 1987, and the Estonian government has helped fund a national network of distance learning programs.

- The Estonian e-University Programme, created in 2002, is a collaboration among the Estonian government, the Estonian business community, and two Estonian universities, the University of Tartu and Tallinn University of Technology. The program is also partly funded by the Estonian IT Foundation. The consortium works together to facilitate distance learning opportunities for Estonian citizens, including students in remote areas. Ten regional learning centers, located throughout Estonia at universities, libraries, or
vocational schools, serve as study centers and provide teleconferencing facilities for students taking part in e-University classes (Santiago et al., 2008).

With consortia like the one in Estonia, students have the opportunity to access classes in multiple places, which aids their persistence in tertiary education, even if they need to relocate, or find classes that work better within their busy schedule.

Recognition of prior learning (RPL) is a practice that offers older students an alternative pathway into tertiary education and also reduces some students’ time to degree attainment, thereby increasing their chances of persistence. RPL provides formal recognition of knowledge or skills acquired through working or informal or unstructured learning experiences, for the purposes of university admission or for credit towards a qualification. As noted by the International Labor Organization (2005), RPL has been implemented in a variety of forms in countries around the world, including Australia, Canada, New Zealand, and South Africa. While standards and assessment processes vary – some are determined by state or national governments, while others are decided by individual institutions – applicants to RPL programs must typically submit documentation of their prior experience such as a portfolio of work, letters from employers, and test results. Two examples of RPL in South Africa are provided below.

- In South Africa RPL is part of a national educational policy aimed at rapidly widening access to education and training in the post-apartheid era (South African Qualifications Authority, 2002). At South Africa’s University of the Western Cape, for example, over 500 students have been admitted through RPL since the policy was implemented in 2001. According to the university’s RPL guidelines, RPL may qualify students for admission to undergraduate studies, credit towards an undergraduate degree, or access to or advanced standing in a postgraduate program. In order to facilitate the RPL application process for prospective students, the university offers a nine-week “portfolio development course” during which candidates attend academic skills workshops, assemble their RPL application, and receive individualized advising from an assigned mentor (Hendricks & Ralphs, 2003).

- At Nelson Mandela Metropolitan University in South Africa, RPL is targeted to “mature” students who are seeking formal acknowledgement of their knowledge and skills previously acquired through life and/or work experience in order to gain admission to a
formal university degree program. A formal comparison process of prior learning and experience compared to learning outcomes related to a particular degree program is conducted for each student (NMMU, 2010).

Institutional Research and Tracking

At many institutions in the developing world, a challenge in addressing retention and persistence is the absence of data that has been analyzed within the context of institutional research (IR). IR is broadly defined as research that supports institutional planning, policy formation, and decision-making (Saupe, 1990). While the practice of institutional research is common at universities in the U.S., Canada, Australia, and Europe, it is a nascent field in other regions of the world. IR makes it possible for institutions to monitor student progress and institute practices and procedures for tracking student attrition.

In order to conduct institutional research, universities must first engage in the effective collection of technical and analytical data (Terenzini, 1993). Without systems in place to gather or analyze information about student enrollment, performance, and rates of graduation, institutions lack the tools with which to identify at-risk students and track student progress, as well as know which institutional programs and policies are positively affecting student progress. Despite the longstanding existence of the South African Association for Institutional Research, an affiliate of the U.S.-based Association for Institutional Research, SANTED (2010) identified a dearth of IR systems at several tertiary institutions in South Africa, and worked with these institutions to establish IR offices and facilitate the development of data management systems. Now that the universities have established mechanisms through which to collect data, they are able to systematically analyze data in order to address institution-specific issues such as student attrition. At the University of Fort Hare, for example, an online student tracking system was developed in order to provide the institution with effective diagnostic data related to student
retention and persistence. A similar effort was undertaken at the University of Western Cape, where data related to student persistence was analyzed, and research was initiated to map the academic progress of enrolled students.

Just as IR capability has been a focus of educational development initiatives in South Africa, it has also been a focus in Latin America. In Chile specifically, accrediting bodies have for several years collaborated with U.S. IR experts in order to help tertiary institutions develop capacity for institutional analysis and programmatic self-assessment under the auspices of the Higher Education Quality and Equity Improvement Program (Middaugh, Silva, Ramirez & Reich, 2008). Administrators from universities across Chile were trained in aspects of IR, including collection and analysis of persistence and graduation data. As a result of these efforts, IR practices are now well-integrated into the culture at Chilean institutions, making it possible for these universities to more effectively address issues related to retention and persistence.

When they collect data as described above, institutions ought to be able to accurately identify students who are at risk of dropping out of the institution due to poor academic performance or other issues. These types of monitoring programs or early warning systems make it possible for institutions to implement interventions that meet the unique needs of the individual student. Early warning systems, which use data to determine which students may be at risk of failing a course or dropping out and enables educators to proactively intervene before it is too late. An early warning team, which is often made up of academic advisors, faculty and student services professionals, tracks student progress on mid-term grades, class absences, and concerns relayed by faculty and staff members about a particular student. Members of this team then decide the best way to intervene proactively in an attempt to provide the support necessary to enable the student to succeed at the institution. The University of Johannesburg in South
Africa developed a student tracking system that is used to assist staff in identifying “at-risk” students as early as possible. Another example of an early warning system is:

- At Winston-Salem State University, a Historically Black College in the United States, the Center for Student Success is responsible for monitoring the progress of all first and second year students by reviewing attendance, exam grades, and other measures. Faculty members are asked to comment on student progress, such as lack of class participation, and disruptive behavior. Center staff then contact students identified as “at risk” and encourage them to utilize Center resources. Between 400-700 “at-risk” students may be monitored at one time (Kuh, Kinzie, Schuh, & Whitt, 2005).

**Findings and Implications**

As the examples and analysis from this paper indicate, there are a myriad of ways to promote student persistence in order to improve institutional retention and increase tertiary education graduation rates. The majority of these programs and policies are focused on providing additional support -- whether it be financial, academic, personal or structural, in order to promote student success. While there are global efforts to promote persistence, there are inconsistencies and gaps in both the existence and documentation of programs and policies, making it difficult to discern whether initiatives are making a difference in the graduation rates of students globally.

This paper describes a range of policies and practices currently operating in tertiary institutions around the world. These interventions make progress in providing opportunities for students to obtain support, but these policies and practices may not be reaching those students most at risk of dropping out. This inconsistent information emphasizes the need to undertake additional primary data collection that focuses on specific regions and disadvantaged populations. We offer the following recommendations to further consider the promotion of persistence in tertiary education for all students, not just the elite who are able to successfully complete tertiary education. Tertiary education for all—not just in participation but also through
degree completion—is needed for both individual benefit and for the benefit of the home country of the student. It is imperative to think of the public good that can be gained by countries and regions if tertiary graduation rates are improved.

**Recommendations**

The following recommendations emerged from our findings and data collection:

- **Focus on access and success.** Equity policies need to focus on outcomes related to tertiary education outcomes rather than just access outcomes. It is important to focus on student success throughout their degree program, through support programs and measurement of outcomes such as graduation rates for underrepresented groups at tertiary institutions (Santiago et al., 2008).

- **Connect secondary and tertiary education.** Some of the challenges that students bring with them to institutions of tertiary education are a result of inadequate secondary education. This is particularly true for women, students from rural areas, and low-income students. Students with inadequate academic preparation are more likely to struggle in tertiary education and are at a higher risk for dropping out before earning a degree. Secondary and tertiary education systems need to partner to ensure that students are being prepared to continue their education at the highest levels.

- **Support the development of robust institutional research departments.** In addition to enrollment data and grades, institutions need the full capacity of institutional research departments to track students’ background characteristics and intentions upon enrollment, course completion by discipline, and the nature of student engagement on campus. In addition, institutions need to assess student learning and measure student perceptions of
learning and campus climate. This information is needed in order to gain an accurate understanding of the student population and student progress, which in turn enables institutions to design and implement policies and programs that work.

- **Utilize data to promote accountability.** Institutions need to strive to maintain transparency with regard to data. Once institutions are in the practice of collecting the above-mentioned data, availability of that data should be considered as a measure of accountability. Institutions may become more accountable with regard to retention and persistence if they are required to make certain student data available to the government and the public.

- **Create a clearinghouse of programs and best practices.** A major limitation of this paper was that primary data on institutional mechanisms to promote persistence were challenging to find due to limited documentation. A clearinghouse would provide access to documented programs and policies that institutions could replicate in order to promote persistence.

- **Develop holistic support mechanisms.** While financial need is a primary roadblock to persistence for many students, it is not the only one. Institutions and government ministries must examine the possibility of creating programs that partner financial support with academic and personal support services. As we highlighted in the academic support section, the most financially disadvantaged students often need academic support to combat inadequate academic preparation, as well as social and structural supports to help in their transition and eventual graduation from tertiary education.

- **Include emotional support services in prevention programming.** While we found numerous examples of financial and academic support around the world, there appears to
be a lack of emotional support mechanisms available for students at tertiary institutions in developing nations. Postsecondary students worldwide have a myriad of concerns and stresses that can be a barrier to degree completion. For this reason, institutions should further explore emotional support services for students in the form of counseling, mentoring, and advising programs that provide students with the critical emotional support.

- **Maintain efforts to establish and maintain stable funding structures.** Given the cost of the practices described in this paper, stable funding is needed for institutions to develop and assess programs that promote persistence. Institutions need these stable structures to continue capacity building at their institutions in order to be able to meet the need for higher education, and the needed services in order to meet the needs of all students who enroll at the institution. While it is beyond the scope of this paper, the precarious financial and political situations in many countries make it challenging to run an efficient institution and to provide the needed supports for students.

- **Encourage reform that facilitates faculty stability.** Many of the programs highlighted run on the time and talents of faculty members. One challenge to these models, particularly in developing countries, is the shortage of full-time, engaged faculty members who are committed to the betterment of the institution. Many of the top faculty members leave for more lucrative opportunities and there is constant turnover. Often, faculty members are only hired on a part-time basis and may be forced to work multiple positions, even outside of academe, in order to make a living. In order for faculty to be invested in students and promote their persistence and well-being, more stability is needed within the faculty.
• **Seek avenues for collaborative partnerships that extend the capacity of any one program.** Partnerships with other countries and foundations -- like the Ford Foundation programs highlighted in this report -- are recommended in order to facilitate and expand programs that holistically support students on the path to graduation. Programs and institutions may be able to more effectively serve students over time when they partner with other organizations, such as universities, government agencies, non-profit organizations, or corporate partners. Some benefits to programs may include: financial and operational support, increased institutional capacity through professional development and knowledge-sharing, and dissemination of best practices through publication and outreach. Partner organizations also benefit by gaining access to local expertise about student needs, finding opportunities for research about program effectiveness, and developing a more positive reputation.

• **Consider work-study models.** Since institutions in all areas of the world are under financial constraints that may affect the staffing at an institution, it is recommended that institutions consider the use of students as work-study placements. These placements are a benefit to the students, in terms of providing much needed financial support, and another mechanism through which to develop a support system for students and promote engagement at the institution. Students also develop skills in these placements that may be useful after graduation. The placements also benefit the institution in that they have human resources to help with the functioning of the institution, often at a reduced rate compared to a full-time employee. The only example we found of this outside of the U.S. was at the University of Zimbabwe- Student Part-Time employment Scheme- students
can work for pay up to six hours a week at a department at the university such as the library (Ng’ethe et al., 2003).

- **Identify and support the needs of students with disabilities.** While students with disabilities are often considered a target group for reports such as this one, there is little information available on programs and services available to promote retention for these students. More work is needed in this area to understand the barriers to implementing targeted learning supports. While many students with disabilities are easily identifiable due to an obvious physical disability, many other forms of disabilities go unseen due to the fact that these are psychological or learning disabilities. Outreach efforts should include services to teach students how to understand their disability and advocate on behalf of their needs. At the university level, programs should span individual supports for students and structural supports for faculty and staff. Without clear policies and programs in place this population will continue to be underrepresented in tertiary education.

- **Do not forget nontraditional-age students.** With the expansion of tertiary education worldwide, many older students, who often work full-time, are starting to enroll in degree programs. Programs mentioned previously, such as Recognition of Prior Learning, work to promote tertiary education for students of all ages. There is a need to focus on the adult student population since these students are often balancing work and family responsibilities along with their coursework (Rowan-Kenyon, Swan, Deutsch & Gansneder, 2010).
Directions for Future Research

Our review of policies and practices highlights the need for further documentation of existing policies and programs. Moreover, there is a desperate need for program evaluation in order to determine institutional effectiveness in meeting the needs of students and promoting persistence. A key challenge to the development of this report was the lack of scientific evidence or empirical research conducted on the programs and initiatives described. Evidence-based research is needed to maximize institutional resources, both monetary and human. In addition to evaluative research, additional examination of the growing number of private institutions around the world would provide a balanced perspective of this issue.

Our review of the global practices and policies presented in this meta-analysis revealed one clear point - more research on the effectiveness of these programs is sorely needed. Very few of the described programs have been evaluated, and some have not been documented beyond a website or program flyer. Much of the existing documentation is in the form of reports related to interventions; however, evidence-based research documenting the efficacy or economic benefits of these interventions was scarce. Furthermore, available information and documentation fails to represent efforts in developing countries. This imbalance of information emphasizes the need to undertake additional primary data collection that focuses on specific regions and disadvantaged populations.

Finally, additional higher education research in the developing world is sorely needed. There is a strong body of literature on retention and persistence in Western countries, but it is a nascent field in Southeast Asia, Sub-Saharan Africa and in portions of South America. However, based on the research available for this report, Western scholars should consider more trans-national collaborations with colleagues in developing countries. Encouragement to engage in this type of
collaborative research might come from scholarly and professional organizations in the form of funded research support in order to learn from global best practices.

**Conclusion**

If social justice is an international value and goal, then educational equity in the form of tertiary education completion is a means to reach that goal. While there has been explosive growth in tertiary education enrollment, a large percentage of students fail to complete baccalaureate degrees. Based on the information reviewed for this paper, numerous programs and policy models are used throughout the world to promote persistence and degree completion in tertiary education. Yet despite these positive developments, major gaps remain. The reach of these policies and programs is limited based on geography, content and scale. Countries and institutions need to continue to work to build upon existing programs and policies and create new sustainable efforts that are proven to promote the persistence of students, particularly for members of underrepresented populations. Continuing to focus on “access with success” in tertiary education is one step towards that goal.
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