A Multi-faceted Model to Impact Retention: Successful Initiatives at the University of Kentucky

Michael Mullen  
Associate Provost for  
Undergraduate Education  
The University of Kentucky  
mike.mullen@uky.edu

Susan Herrick  
Associate Director of  
Undergraduate Studies  
The University of Kentucky  
slherr1@email.uky.edu

Rebecca Jordan  
Associate Dean of Students  
The University of Kentucky  
rjordan@email.uky.edu

Karin Lewis  
Director of Academic  
Enhancement  
The University of Kentucky  
kalewi2@email.uky.edu

Toni Thomas  
Director of the Center for  
Academic Resources and  
Enrichment Services  
The University of Kentucky  
toni@uky.edu

Abstract – In 2007 the University of Kentucky (UK) made a commitment to enhance the retention of first-year undergraduate students. UK's recently completed Top 20 Business Plan called for the university to increase enrollments, retention and graduation rates, even as retention of the 2006 cohort had dropped to 76.4%. UK goals call for retention to improve to 90% and graduation to 72% by 2020, yet data depicted a downward trend. Since 2007, UK has expanded the first-year enrollment to 4150 students, hired additional advisors, implemented early alert/mid-term grade reporting systems, expanded access to the Academic Orientation first-year seminar course, enhanced student co-curricular support, expanded peer tutoring services, and designed an innovative approach for developmental supplemental instruction, UK Academic Preparation Program (APP). UK enhanced first-week orientation activities, designated freshman peer mentors, integrated a common reading experience and designated a “financial ombud.” Retention has steadily, with our fall 2009 cohort returning at 81.8%.

Introduction

There has been a good deal of attention paid to retention of first-year students over the past 30 years (Tinto 2006). Despite the fact that emphasis on retention strategies has increased over the past decades, retention rates continue to be relatively low. Universities across the United States started to track first-year retention rates in the early 1980s at two-year and four-year institutions, both public and private. The average first-year student retention at public, PhD granting universities has ranged from 72.9 to 78.6% since 1983, with the highest average recorded for the 2009 cohort at 78.6% (American College Testing, 2010). Retention for all two and four year schools has averaged 66.7% during this period.

The University of Kentucky is the land-grant, flagship, research university of the Commonwealth of Kentucky. Our mission is to improve people's lives through excellence in education, research and creative work, service, and health care. Our undergraduate enrollment for 2010-11 was 19,927 students, of which 4282 were full-time, first-time freshmen. Just over 51% of these freshmen were female, and approximately 16% were underrepresented minority students of which African-American or Black students comprised 9.2%. Just over 23% of our incoming students were from out of state, and only about 1% of our undergraduates are from outside the USA (Table 1).
Table 1. Snapshot of the University of Kentucky First-time, First-year Full-time Student Population, 2010-11.

<table>
<thead>
<tr>
<th>Enrollment Characteristic</th>
<th>Number (% of total)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>2204 (51.5%)</td>
</tr>
<tr>
<td>Under-represented Minority</td>
<td>763 (17.8%)</td>
</tr>
<tr>
<td>Black or African-American</td>
<td>399 (9.2%)</td>
</tr>
<tr>
<td>First Generation</td>
<td>733 (17.1%)</td>
</tr>
<tr>
<td>Out of State</td>
<td>995 (23.2%)</td>
</tr>
<tr>
<td>International</td>
<td>50 (1.1%)</td>
</tr>
<tr>
<td><strong>Total Enrollment</strong></td>
<td>4282</td>
</tr>
<tr>
<td>ACT – 25th percentile/Average/75th percentile</td>
<td>22 / 25.2 / 28</td>
</tr>
<tr>
<td>High School GPA – 25th percentile/Median/75th percentile</td>
<td>3.27 / 3.64 / 3.98</td>
</tr>
</tbody>
</table>

In 2002 the UK Task Force on the First-Year Experience crafted a set of recommendations that resulted in the expansion of efforts to address attrition after the freshman year. Among these was the creation of the Academic Enhancement Center, expansion of UK 101, our Academic Orientation course, and expanded advising. In 2005, UK adopted and published its “Top 20 Business Plan” to address the KY Legislature’s mandate for UK to become a Top 20 Research University by 2020. The plan articulates goals to increase enrollment, faculty numbers, degrees produced, and retention and graduation goals (University of Kentucky, 2005). Our retention goal is to have 90% of full-time, first-time freshmen return for their second year, and to achieve a 72% graduation rate by 2020. However, in the following year, we enrolled the 2006 cohort, and the retention of that cohort in 2007 dropped to our lowest rate of 76.4% (Figure 1). At that time, Provost Subbaswamy articulated his “War on Attrition,” which was dedicated to improving retention, student success, and degree attainment in line with the goals articulated in the Business Plan. To date, these efforts have resulted in significant improvement in retention, with 81.8% of the 2009 cohort returning for their second year. In addition to moving our retention rates upward, we also must expand efforts to increase graduation rates towards our institutional goal of 72%.

![Figure 1. Fall-to-fall retention and 6-yr graduation rates by cohort.](image-url)
The purpose of this paper is to document several practices at the University of Kentucky that have resulted in significant improvements in our retention rate, and future efforts to enhance continued persistence and degree attainment. The data presented are derived from a variety of UK Institutional Research Reports and data sets (University of Kentucky Office of Institutional Research, 2011).

**Institutional Change**

Our “War on Attrition” has articulated the following principles of operation: Intentionality in everything we do with student success as the outcome; systematic communication and synergy-by-design among all academic support units which touch undergraduates; use of best and promising approaches in everything we do; and use of a data-driven, evidence-based approach to process refinement. To facilitate these changes, we have invested over $35 million since the 2007 academic year in a number of areas. This work has focused on the following key areas of UK:

- Closing the Achievement Gap by Reinforcing Student/Faculty/Advisor Relationships
- Setting Higher Academic Expectations
- Enhancing Recruitment, Admissions and Orientation

In the next few sections, we provide a general discussion of just some of the activities in these key areas.

**Closing the Achievement Gap by Reinforcing Student/Faculty/Advisor Relationships**

Since 2007, we have done a number of things in this area. We have hired nearly 20 new professional academic advisors across many of our undergraduate colleges, including Undergraduate Studies which serves exploratory and undeclared students. These advisors have allowed the colleges to interact much more directly, and intrusively, with all students, and especially freshmen. For example, in the College of Agriculture, one new professional advisor was hired as the Freshman Year coordinator, and she works with both freshman students and their faculty advisors to enhance retention in the college.

We are also in the process of redefining what it means to be a professional advisor at UK. To date, advisors are in the same job category as career counselors and nearly all other student affairs officers. We are moving towards a model for a series of professional advisor lines that include explicit professional development and career ladder expectations. These changes will raise the visibility of advising campus wide and improve the quality of the advising experience on campus.

Other initiatives that are in place to enhance communication and retention include the mandatory mid-term grades for all undergraduate courses in all colleges, an Academic Alert system which allows instructors, resident assistants, and advisors to submit an alert regarding a number of issues, including absence from class, poor performance on exams or assignments, and other issues. The student receives a notification, as does the student’s advisor, which then triggers communications from the advisor to the student. We stress to instructors the need to be aware of issues with students during the first two weeks of the semester so that we have a chance to modify behavior towards academic success. The mid-term grade effort was effective in notifying students who should consider withdrawing from a course before the deadline to minimize the impact of a failing grade on their GPA. We also began to place some students who might have been suspended after one semester on probation, with the expectation for participation in one or more academic recovery activities in the spring semester.

Concurrent with these developments, we acquired the Hobsons EMT Retain communications and tracking software. This package has become essential to our ability to effectively communicate with all students in a particular category, for example, a letter from us to all students who successfully complete
the first academic year but who have not priority registered for the fall, or to contact all students on probation reminding them of the services available to assist in their success. This tool is used centrally, from the Division of Undergraduate Education, and is also used a great deal by individual colleges, most notably, the College of Arts and Sciences.

We also host a variety of events to get the word out to the campus on the activities that are ongoing and their impact on success. These include the Provost’s Retention Workgroup, which plans activities and initiatives, and the annual UG Success Summit, which bring together faculty and administrators campus-wide for updates on activities and progress.

Setting Higher Academic Expectations

The university has enhanced existing programs and initiated new programs that are emphasizing academic success for all students. These include our Academic Preparation course, UK 101, and other first-year courses, our continuing programs that support underrepresented minorities and/or first-generation students, and the establishment and expansion of our Academic Enhancement Center. Due to space considerations, we focus on UK 101, the Center for Academic Resources and Enrichment Services, Academic Enhancement and our Common Reading program here. It should be noted that these services and programs do not exist in a vacuum, but, rather are often collaborative in nature. For example UK 101 emphasizes the use of academic support programs such as the Peer Tutoring Program in Academic Enhancement and CARES, and students in CARES and other student support programs also utilize services in other support programs. These programs provide synergies that would not exist in a single, isolated program.

UK 101

UK 101: Academic Orientation, a collaborative effort between Student Affairs and Undergraduate Education, has been a successful part of our first-year programming for the past decade, having a sustained and significant impact on student success. This course helps first-year students “articulate the purpose and nature of a college education at a research university; articulate UK’s expectations of its students; gain an appreciation of the University’s mission, history, and traditions; develop skills for achieving academic success such as study strategies and library research skills; increase awareness and use of campus resources; reflect on personal and social issues that first-year students often face in a college environment; become involved in the total life of the University; and form beneficial relationships with students, faculty, and staff.”

During the past decade, retention rates for students who take UK 101 have exceeded those of students not taking it by just under 1% to nearly 6% each year, with an average gain of 3.1% for all cohorts from 2001 to 2009 (Table 2). This is in agreement with data from other investigators (e.g., Davig and Spain 2003-2004; Sidle and McReynolds, 2009) who record significant increases in retention for students in a freshman year experience course. An inspection of ACT scores shows that the average composite ACT score is slightly lower for students taking UK 101, and little difference in average first year UK GPA. This indicates that the impact of UK 101 on student success goes beyond academic orientation and also impacts the students’ identity with UK as their university home.

Figure 2 shows the impact of UK 101 on first-generation (FG) students and the student body in general. First-generation students made up 17.1% of all students during this period, and were retained at a much lower rate (72.7%) than the general population (81.3%). The retention rate for FG students who enrolled in UK 101 was 74.3% compared to 70.9% for FG students who didn’t register for the course. The retention rate for non-FG students enrolled in UK 101 was 82.7% compared to 79.9% for those students not enrolled.
Table 2. Differential impact of UK 101 on Retention and Graduation Rates. Data are the difference between retention or graduation rates for students with UK 101 compared to those not taking UK 101.

<table>
<thead>
<tr>
<th>Cohort</th>
<th>First to Second Fall Improvement in Rate with UK 101 (%)</th>
<th>Four Year Degree</th>
<th>Six Year Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>4.6</td>
<td>3.2</td>
<td>5.3</td>
</tr>
<tr>
<td>2002</td>
<td>3.3</td>
<td>2.9</td>
<td>3.9</td>
</tr>
<tr>
<td>2003</td>
<td>4.9</td>
<td>4.9</td>
<td>7.1</td>
</tr>
<tr>
<td>2004</td>
<td>1.5</td>
<td>5.3</td>
<td>2.5</td>
</tr>
<tr>
<td>2005</td>
<td>5.7</td>
<td>8.8</td>
<td>-</td>
</tr>
<tr>
<td>2006</td>
<td>3.2</td>
<td>3.5</td>
<td>-</td>
</tr>
<tr>
<td>2007</td>
<td>1.6</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2008</td>
<td>2.2</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2009</td>
<td>0.6</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Figure 2. Impact of UK 101: Academic Orientation on Retention of First Generation and Other Students, 2006-2009.

Enrollments have grown steadily in the past decade, with about 30% of freshmen taking the course in 2001 and nearly 50% of all freshmen enrolled in the class in the fall of 2010. We have continued to increase the number of UK 101 sections available each year to meet the demand for the course, although teaching resources preclude us from offering enough sections for all freshmen at this time. UK is offering 102 sections for fall 2011, and is also expanding access to UK 201 for transfer students. Because of the impact on our FG students, we also have 16 sections of UK 101 available for FG students this fall.

Another benefit of UK 101 is that nearly every section has a peer mentor assigned to it. The peer mentors are sophomore, junior or senior students who took UK 101 and assist the instructor in building community and being a point of contact for incoming freshmen. These students were trained as peer mentors, providing leadership to the course, and gaining valuable communications skills at the same time.

The Center for Academic Resources and Enrichment Services (CARES)

CARES has a variety of services that provide comprehensive academic support and enrichment services to aid in increasing the retention and graduation rates of underrepresented minority students.
Services include the Freshman Summer Program (FSP), a six-week residential summer program where students earn up to six college credits and get a head start on the fall semester. The FSP is positively associated with enhanced fall semester success and retention for African-American students. Relative to students who did not go through the program, FSP students had higher first-year grades, which—in turn—were found to be the best predictor of fall-to-fall retention. Over the period of 1995 to 2004, a total of 413 African-American students participated in the FSP, ranging from 30 to as high as 64 per summer. The average retention rate for the FSP participants during this time was 82.9% compared with 73.4% for those not participating.

Other CARES services include access to tutoring, academic planning, and First-Year Study groups (FYS). The FYS program brings students together into regular, facilitated study sessions focused on a number of first-year STEM courses, including anatomy, biology, chemistry, math and statistics. Students who attend more sessions have significantly higher STEM course GPAs, and subsequently, higher retention rates (Figure 3). Students who participate in 10 or more sessions during the first semester had a nearly one point increase in their first semester STEM GPA. These results hold after controlling for gender, race, HS GPA, and ACT scores. The impact of engagement of the student with caring professionals and peer tutors has had a significant impact.

![Figure 2. Impact of CARES First-Year Study Groups on Performance in First-Year STEM Courses.](image)

**Academic Enhancement**

The 2002 UK Task Force on the First-Year Experience recommended the creation of Academic Enhancement (AE). This unit was created for the start of the 2003-04 academic year, with modest resources and facilities. Academic Enhancement (often referred to as “The Study”) is a centralized unit responsible for programs and services intended to promote effective learning strategies in and out of the classroom in order to enhance the academic experience of all students. Services are student-responsive, student-centered and intentionally designed to foster interactions that promote learning and attitudes towards academic life that are characteristic of successful college students. Academic Enhancement offers a number of programs and services that benefit students campus wide at both the undergraduate and graduate levels. These include “Study Smarter Seminars,” individual academic consultations, GRE preparation courses, and a private tutor referral program.

Academic Enhancement also provides our Peer Tutoring Program (PTP), a reciprocal model of peer-to-peer support rooted in academic course material, yet encompassing the larger curriculum (study
The PTP is designed as a service that emphasizes prevention and proactive peer-guided intervention, rather than reactive “rescue” efforts. Peer Tutors are expected to coach students to enhance learning and guide practice with course-related concepts and clarify problems. The PTP holds international certification from the College Reading and Learning Association. The PTP offers free tutoring in more than 50 courses, including the first year courses in biology, chemistry, math and other sciences. The PTP will be the focus of this section.

In 2003-04, the PTP program had a modest start, with a total of 271 tutoring contacts that year (Figure 4). For the next two years, the program became established, with sessions rising to 2234 by the 2005-06 year. As the program gained acceptance from students and advising personnel, the PTP experienced rapid growth, with a total of 17590 tutoring contacts occurring during the 2010-11 academic year.

The PTP has proven to be effective in significantly enhancing student success in the classroom. Figure 5 shows the impact of participation in the PTP and the Drop, Fail and Withdrawal (DEW) rate in three key courses. For example, the DEW rate for students in MA 109: College Algebra was 25.6% for students who participated in MA 109 tutoring. The DEW rate for the students who did not utilize PTP was 36% that year. Similar data for MA 123: Elementary Calculus and CHE 105: General Chemistry I are shown as well. One question that is often asked is whether only “better” students are taking advantage of the service resulting in better DEW rates in this comparison. What we actually have seen is that students across the spectrum of preparedness utilize PTP, and the students entering UK with a HS GPA of between 2.5 and 3.49 were retained at a rate of approximately 6% higher with using PTP. Students with a HS GPA of 3.5 or above have nearly identical rates of retention of approximately 89% (data not shown)

Academic Preparation Program (APP): UK’s APP for Student Success

The State of Kentucky has established minimum ACT test scores as a proxy for College Readiness in Writing, Math and Reading (Kentucky Council on Postsecondary Education, 2010). If a student is admitted with an ACT score less than 18, 19, or 20 in English, Math, or Reading, respectively, then the university must provide supplemental or developmental course work to prepare the student for college-credit bearing course work.
Because of our land-grant mission, access for students throughout the Commonwealth is important. While we do not admit large numbers of students who have College Readiness, we know that these students struggle and are not retained well. For example, for the 2009 cohort, the retention rate for students admitted with a math deficiency was 73.8%, relative to the 81.8% rate for the total population.

In an effort to support student success for students admitted needing work in reading, math and writing, we developed the Academic Preparation Program (APP) as a collaborative effort between Academic Enhancement, Enrollment Management, and Undergraduate Studies. This program was designed to begin communicating with students during the admissions/application process and provide a comprehensive continuum of support once they begin their careers as UK students.

The APP intentionally identifies students who apply to UK with ACT/SAT sub-test scores below the standards in order to provide suggestions for ways to strengthen their admissions application while they are still in high school. Suggestions include taking additional appropriate courses during the senior year in high school; enrolling in additional coursework at a community college during the senior year in high school or the following summer; or taking additional ACT or placement tests to demonstrate proficiency.

If a student is admitted without demonstrating proficiency, s/he will be placed in Undergraduate Studies where professional advisors will work with the student to ensure progress towards his/her ultimate major and degree. Upon confirmation of attendance at an advising conference, the student begins receiving information regarding everything s/he needs to know to be successful at UK, including participation in our APP for Student Success. These are developmental (math) or supplemental (reading and writing) workshops which provide individualized diagnostics and educational programming to allow students to achieve proficiency in the area(s) of concern. The Math APP is described here as an example, and more details can be found at the Academic Enhancement website.

The APP Workshop for Math provides an individualized experience in which students focus on the areas of math that are most important to them in a hybrid of face-to-face and on-line individualized instruction environment. Students may take a placement exam whenever they are ready to move on to an appropriate credit-bearing math course. However, students will continue to have access to the APP Workshops for Math and can even simply drop in once they've enrolled in a credit-bearing math class to

Figure 5. Impact of Peer Tutoring in 2009 on DEW (Drop, Fail (F), Withdraw) Rates in Selected Courses.
hone their skills, refresh certain topics, and ensure they are on track for continued success in math. One goal is to allow students to progress from developmental math into credit-bearing math during the same semester in the hybrid mode, allowing the motivated student to stay on track for progress to degree.

Once students who were originally automatically enrolled in the APP for Student Success have placement scores that indicate they are ready to move on, the students schedule a meeting with their academic advisors in Undergraduate Studies. The advisor and student discuss the progress made and options for moving into the student's chosen major. However, students can continue to use the APP throughout their academic career.

*Common Reading Experience*

The 2011-12 academic year marks the start of our third annual Common Reading Experience. Since the establishment of the program, significant improvement in participation from students, faculty, and staff has occurred. Over 90% of the freshmen in the first two years of the program reported that they read some or all the book over the summer months, and summer readership increased by 12% from year one to year two. Program alterations after the first year led to an increase in student participation at the K Week orientation discussion groups, with over 80% of participants submitting a “mandatory” assignment. In both of the first two years, over 1000 students, faculty, and staff attended the author lecture, and students in UK 101 classes reported attendance at other campus lectures and cultural events as a result of an enjoyable experience at the author lecture.

After less than three years, faculty and staff interest in the Common Reading Experience has grown considerably. Numerous faculty and staff requested to join the 2011-12 Common Reading Selection Committee; 11 of the 21 final selection committee members were faculty. After our first push for course integration for the 2011-12 selection, we received 57 requests from faculty who are considering incorporating the book into their courses. In addition, there is a campus-wide effort (facilitated by the Common Reading Programming Committee) to expand year-long programming related to the book. Representatives from multiple colleges, Undergraduate Education, Student Affairs, and various student organizations are involved in the event planning.

*Enhanced Recruiting, Admissions and Orientations*

Since 2007, UK has developed our See Blue campaign to create a sense of community and pride at UK. We are also partnering with Bluegrass Community and Technical College to provide a dual-enrollment pathway for BCTC students to enter UK with a focus on personalized advising for transfer students and a more seamless transition to and timely graduation from a specific baccalaureate degree program at UK. The Division of Undergraduate Education is also working with local high schools to develop dual credit opportunities, and to provide smooth pathways from high school math into UK math courses, and has sponsored numerous symposia and workshops bringing high school teachers together with UK faculty to discuss college readiness. And, we have greatly expanded our K-Week orientation activities to provide multiple and varied opportunities for students to become part of the UK experience, cultivating a sense of belonging at UK.

*K-Week and the K-Crew*

Student engagement is an important component of retention and persistence (Kuh et al. 2008) and we have been paying attention to this aspect of the UK experience. For example, K-Week, the University of Kentucky’s fall welcome week, is nine days of academic, social, and community-building activities, events, and programs. While events and activities primarily focus on meeting the needs of new students, K-Week is meant to unite the university community in the celebration of a new academic year. Featuring more than 200 programs, K-Week addresses all aspects of the transition process from high school to college, especially the academic and social transitions. Flagship events include the New Student Induction Ceremony, a formal academic ceremony which foreshadows Commencement; Big Blue U, a
pep rally held in Commonwealth Stadium; UK FUSION, Kentucky’s largest one-day service event; and We Are UK, an outdoor festival celebrating the uniqueness of the UK community. In its first year (August 2007), there were 165 events and 75 upper-class students who served on the K-Crew (K-Week leaders). Four years later, there are over 250 events and 350 students serving on the K-Crew. K-Week and the K-Crew focus on helping students make a successful transition to the University of Kentucky.

After several years of assessment and evaluation, it was determined that students craved more small-group interactions and more intimate event settings. The large social events, although fun, are also intimidating and overwhelming to many. As a result, we partnered with many campus offices to rethink our event offerings and develop experiences that will create a more comfortable atmosphere for our students.

In addition, in 2010, the Office of New Student and Parent Programs expanded the leadership role of the K-Crew by expecting them to communicate with their group of new students for the entire academic year. Now, each member of the K Crew connects several times a month with each of the students assigned to him or her. They also plan social outings and have a more extensive “checking in” conversation with each student in October and March.

Financial Concerns

We know that finances are sometimes the reason why our students leave or do not return. To help in this area, we have also initiated a Financial Ombud office in our Enrollment Management unit. For spring 2011, there were a total of 1405 students not preregistered for fall 2011 who had holds due to financial problems. Our Financial Ombud was able to assist 783 of these students with their financial solutions resulting in them being able to register for the fall 2011 semester and return to UK. Many students simply don’t know where to turn if they are experiencing financial issues, and many times we can assist students in their goal of remaining in school and attaining a degree.

Conclusion

We have ambitious goals for retention, student success, and graduation for our students. If we admit a student, we must provide opportunities for that student to be successful, and ultimately contribute to the success of the state, region and nation. Our “War on Attrition is still in its early stages, but the early gains in retention have been encouraging. We are continuing to develop and refine our programs, and will be emphasizing efforts to enhance the return of second-year students in 2011-12. This effort has been possible because of the cooperation among support units campus wide – Office of Diversity, Enrollment Management, Student Affairs, and Undergraduate Education – as well as the dedication and efforts of advisors and faculty in every college at UK. This work is not only enhancing student success at UK, but it also is helping us, as a community, to come together around a common, important cause: the education of students from the Commonwealth of Kentucky.
REFERENCES


