



Institutional Research Reports

University of Kentucky

Assessing the Academic Quality of First-year Students

Fall 2005

The Fall issue of *Institutional Research Reports* examines whether the academic quality of first-year students has improved over the past decade. The report delineates students' academic credentials, such as high school grades and ACT scores, and charts the number of Governor's Scholars/School for the Arts, high school valedictorians, and National Merit Scholars® enrolled at UK in recent years. Selected information from the First-year Survey Program is also reviewed. Finally, three key statistics reflecting the academic success of students during their freshman year are presented: retention rates, cumulative grade point averages, and the percentage of students placed on probation at the end of their first semester.

Measures of Academic Preparation for College

ACT Composite scores provide a reliable source of information about the academic preparation of first-year students. The UK Office of Institutional Research has found that ACT scores and high schools grades jointly predict about 30 percent of the variance in freshman GPAs. Table 1 shows that from 1999 to 2005 average ACT Composite scores ranged from 24.0 to 24.7.¹ The middle 50 percent range varied from 21 – 27 to 22 – 27. The average ACT score of incoming freshmen reached its peak with the arrival of this year's class; however, the middle 50 percent statistic of the fall 2005 class is identical to those presented by all but one class between 1999 and 2005. Given the small fluctuations in ACT scores of freshmen, there is little evidence to support the position that students' academic preparation has increased appreciably over the past seven years.

Students' high school grades provide another measure of

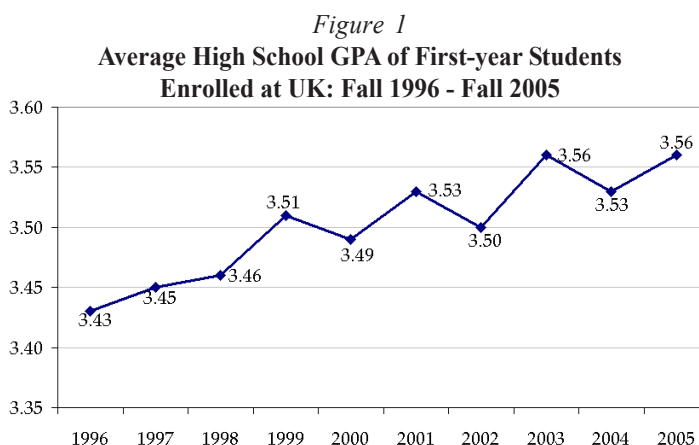
¹ Table 1 presents ACT Composite scores for first-time, first-year students, along with SAT scores converted to ACT scores using a concordance table. This procedure was used in an effort to include test scores of as many students as possible in each cohort. Official ACT and SAT scores reported to the U.S. Department of Education and the Common Data Set are based on students' highest scores earned in a single administration of the exam. The Registrar's Office compiles ACT test statistics based upon a student's highest sub-scale scores, which may be earned in multiple administrations of the exam. These different methods of computing ACT Composite scores account for slight discrepancies in test scores reported by the Office of the Registrar and the Office of Institutional Research.

Table 1
ACT Scores for Incoming First-Year Students:
Fall 1999 – Fall 2005

Year	N	Mean	25 th /75 th Percentile
2005	3,793	24.7	22/27
2004	3,913	24.4	22/27
2003	3,648	24.5	22/27
2002	3,673	24.0	21/27
2001	3,108	24.3	22/27
2000	2,970	24.2	22/27
1999	2,726	24.5	22/27

Note: Includes SAT scores converted to ACT scores
Source: UK Office of Institutional Research

their preparation for an undergraduate education. Figure 1 shows the average GPAs of first-year students who enrolled at UK from 1996 to 2005. High school grades presented by our newest students have steadily increased over the past decade. In fall 1996, the average GPA of students entering UK was 3.43. Ten years later, the average GPA of this year's freshman class is 3.56.

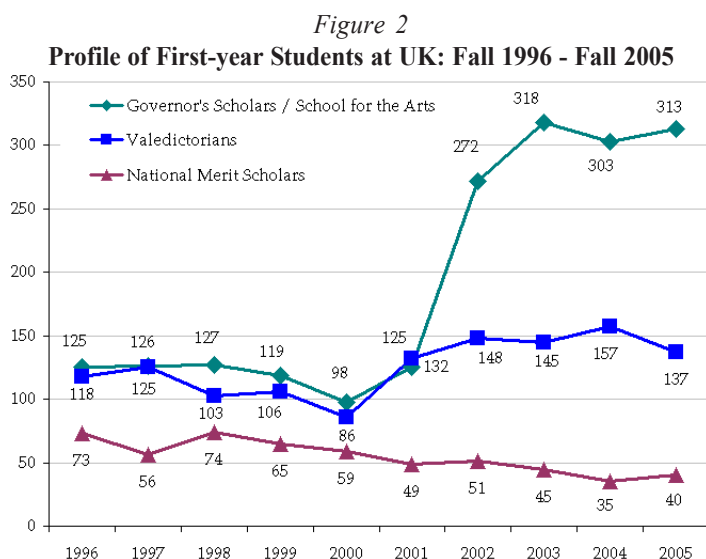


Note: Fall 2005 data are preliminary
Source: UK Office of Institutional Research

The rise in average high school GPAs presented by first-year students, however, needs to be reconciled with their relatively flat ACT Composite scores. If the improved high school grades of incoming freshmen provided a valid indication of enhanced preparation for college, one would also expect a corresponding increase in ACT Composite scores over the past few years. Given the lack of a correlation

between the two indicators, other plausible interpretations, such as grade inflation, may provide a better explanation of the upward trend in high school grades.²

Special achievements and honors provide another measure of the academic preparation of incoming students. Figure 2 presents the number of freshmen who have achieved the following distinctions: participated in the Governor's Scholars/School for the Arts, been named class valedictorian, and/or been recognized as a National Merit Scholar®. From 2000 to 2005, the number of freshmen who had previously been involved in the Governor's Scholars/School for the Arts program jumped from 98 to 313, an impressive increase of 219 percent. This dramatic growth in the number of freshmen who participated in the Governor's Scholars/School for the Arts program can be attributed directly to the administration's relatively new scholarship program designed to attract the Commonwealth's best students.



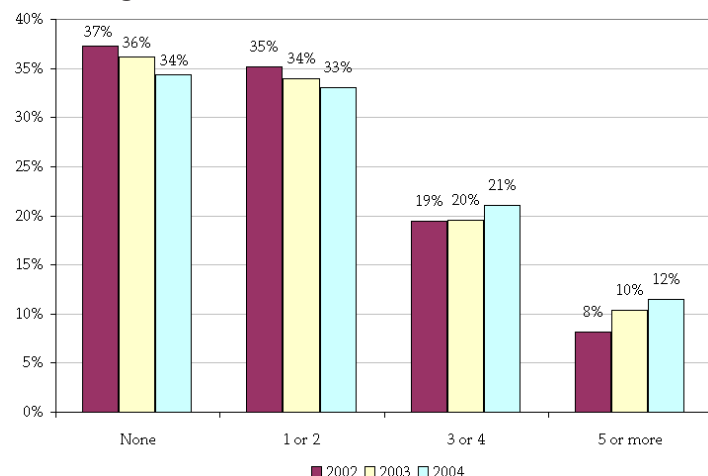
Note: Fall 2005 data are preliminary
Source: UK Office of Institutional Research

The number of first-year students who had previously been recognized by their high schools as class valedictorians has fluctuated over the years. After reaching a low of 86 in 2000, the number of valedictorians peaked in 2004 at 157. The number of valedictorians declined to 137 in fall 2005. Finally, the number of National Merit Scholars® reached its high mark in 1998 after 74 recipients enrolled at UK as freshmen. The number of National Merit Scholars® steadily declined over the next six years before showing a slight upturn in fall 2005.

² Woodruff, D.J. & Ziomek, R.L. (2004). *High School Grade inflation from 1991 to 2003*. (ACT Research Report Series 2004-4). Iowa City, IA:ACT.

Two additional indicators provide some clues to the academic preparation of first-year students. Figure 3 presents the number of Advanced Placement (AP) courses that students take during their high school careers. AP courses are taught at the college level and offer the potential for college credit if students earn high enough scores on a standardized exam. The graph shows that a little over one-third of all freshmen did not take an AP course during their four years in high school. Roughly another one-third took one or two AP courses while they were in high school. Interestingly, one in 10 first-year students reported taking five or more AP courses.

Figure 3
Number of AP Courses First-year Students Reported Taking in High School: Fall 2002 Cohort - Fall 2004 Cohort



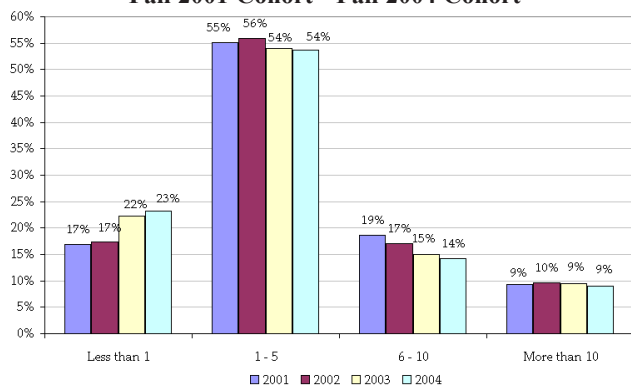
Source: The Survey of First-Year Students administered during the first week of fall semester; UK Office of Institutional Research

One final indicator of academic preparation involves the amount of time students devote to scholarly activities. Admittedly, the amount of time students devote to homework during their senior year is not necessarily indicative of time spent on scholarly pursuits during their prior years in school. But the number of hours students study during their last year in high school may serve as a frame of reference for intuiting what will be expected of them academically when they reach college. If seniors are able to earn predominantly A's and B's with minimal study, they may come to believe that only a few extra hours of preparation will be sufficient to earn satisfactory grades in college. Figure 4 offers a look at the number of hours high school students studied or did homework in a typical week during their senior year. In the last two cohorts to enroll at UK, nearly one-fourth of the first-year students indicated they spent less than one hour

per week on homework. Roughly three-quarters of the students devoted five hours or less to their studies. And only one in ten students reported studying more than 10 hours in a typical week.

Figure 4

**Number of Hours Students Reported Studying or Doing Homework During a Typical Week in Their H.S. Senior Year:
Fall 2001 Cohort - Fall 2004 Cohort**



Source: The Survey of First-Year Students administered during the first week of fall semester; UK Office of Institutional Research

These statistics lend support to educators and policy makers concerned about the lack of academic rigor and productivity during the senior year. In 2001, the National Commission on the High School Senior Year chaired by former Kentucky Governor Paul Patton released its final report, *Raising Our Sights: No High School Senior Left Behind*.³ The report found that many seniors experience their last year in high school as boring and repetitious. This is particularly true for students who have been accepted by a college during the middle of their senior year. The report recommends that, “Educators should work to provide the widest possible array of demanding educational alternatives for all students.” Options available to students range from vocational internships to enrollment in college courses for credit.

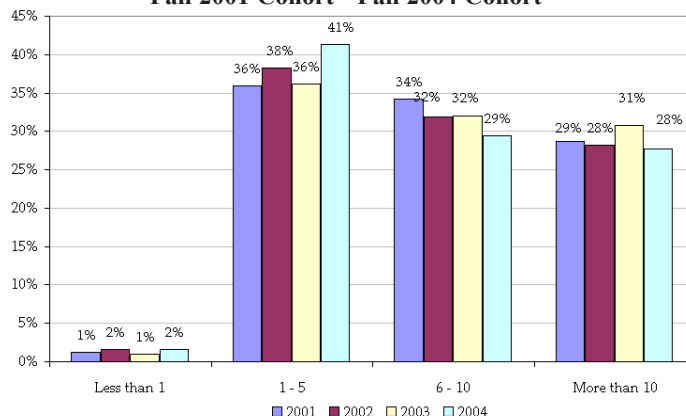
Measures of Academic Engagement and Success during the First Year

The time students devote to studying during their freshman year may not be a measure of collegiate success, but it does offer an indication of their overall engagement in academic life. It is interesting to compare how students’ study habits change from their senior year to their freshman year. Figure 5 illustrates the amount of time students reported studying

during their first year at UK. The good news is that students study significantly more than they did during their senior year (see Figure 4). However, students study considerably less than their professors would prefer. Two of five students indicated that they devoted five hours or fewer to studying or doing homework. And roughly seven of 10 freshmen studied 10 or fewer hours. Less than one-third of those surveyed reported studying more than 10 hours. These statistics suggest that UK’s academic culture does not demand particularly high standards from our newest students. Radically re-shaping the academic culture on any college campus is an extremely difficult undertaking. There can be no more important challenge facing the administration and faculty at this institution.

Figure 5

**Number of Hours Students Reported Studying or Doing Homework in a Typical Week During Their First Year:
Fall 2001 Cohort - Fall 2004 Cohort**



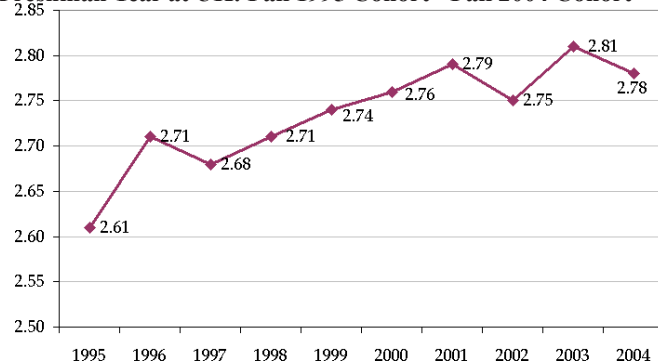
Source: The Survey of First-Year Experiences administered toward the end of the spring semester; UK Office of Institutional Research

Two of the most common indicators of academic success during the freshman year are the average GPA earned after the second semester and the one-year retention rate. Figure 6 on the following page shows the average grades earned by freshmen at the end of their first year. Students who first started at UK in fall 1995 earned an average GPA of 2.61 after the spring semester. Despite minor fluctuations, average first-year GPAs have shown a steady upward trend, peaking at 2.81 with the class of 2003.

³ National Commission on the High School Senior Year (2001). *Raising Our Sights: No High School Senior Left Behind*. http://www.commissiononthesenioryear.org/Report/FINAL_PDF_REPORT.pdf

Figure 6

Average GPA of First-year Students at the End of Their Freshman Year at UK: Fall 1995 Cohort - Fall 2004 Cohort

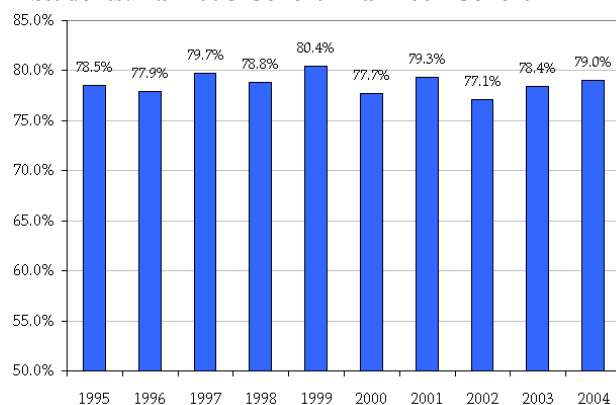


Source: UK Office of Institutional Research

Figure 7 depicts one-year retention rates for the past decade. Retention rates reflect the percentage of first-time, full-time, degree-seeking students who return the following fall semester to resume their college education. While graduation rates have shown fairly steady growth in recent years, retention rates have not shown consistent increases over the past ten years. The percentage of freshmen returning for their second year has ranged from 77.1 percent to 80.4 percent. Only once during the past ten years, with the 2003 and 2004 cohorts, has the retention rate increased for two years in a row.

Figure 7

Retention Rates for First-time, Full-time, Degree-seeking Students: Fall 1995 Cohort - Fall 2004 Cohort



Note: The Fall 2004 retention rate is preliminary; retention rates reported here may vary slightly from those compiled by other sources due to minor differences in reporting criteria

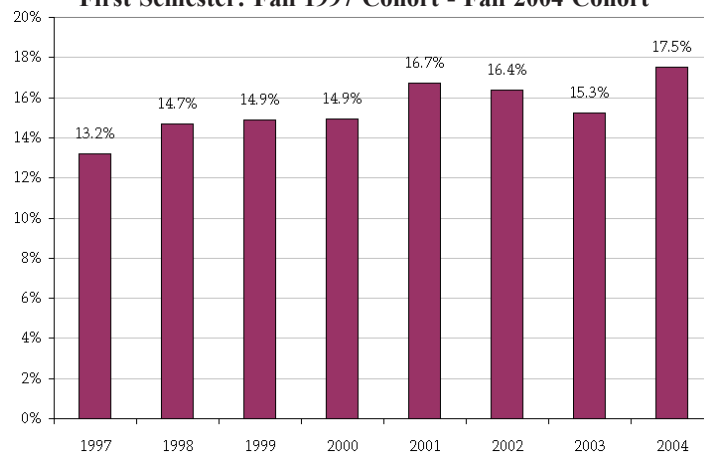
Source: UK Office of Institutional Research

A final measure of the quality of first-year student cohorts is the percentage of students who are placed on probation after their first semester at UK. Figure 8 shows the percentage of freshmen who had less than a 2.0 GPA following their initial

term. In 1997, 13.2 percent of freshmen were placed on probation after their first semester, the lowest percentage in the eight years that cohorts were tracked. The percentage of first-year students on probation rose slightly over the next couple of years, briefly leveled off, and then rose to 16.7 percent in 2001. After two years of relatively small declines in the percentage of incoming students on probation in 2002 and 2003, the percentage of freshmen placed on probation jumped to its highest point, 17.5 percent, with the fall 2004 cohort.

Figure 8

Percent of First-year Students on Probation at the End of Their First Semester: Fall 1997 Cohort - Fall 2004 Cohort



Source: Office of the Registrar

Conclusions

This review of quality indicators has not produced any compelling data to support the view that the academic preparation of freshmen has improved substantially over the past few years. High school grades of incoming students have increased lately, but they have not been accompanied by a corresponding rise in ACT Composite scores. First-year students' GPAs at the end of their freshman year appear to have climbed somewhat over time. However, retention rates have remained largely static over the past decade, hovering between 77 percent and 80 percent. Moreover, the percent of our newest students placed on probation at the end of their first semester has increased slightly in recent times. Therefore, the bulk of the evidence does not support the contention that UK freshmen are more academically prepared than they were seven to ten years ago.