



# Institutional Research Reports

## University of Kentucky

### National Survey of Student Engagement

November 2003

This edition of *Institutional Research Reports* presents the results of UK's participation last spring in the National Survey of Student Engagement. In 2000, the NSSE re-kindled the national conversation about undergraduate learning and institutional excellence. The survey designers<sup>1</sup> envisioned an alternative to media rankings that could be used by colleges and universities to assess the effectiveness of their undergraduate programs. Media rankings are controversial because they rely heavily on an institution's reputation and resources as the primary indicators of collegiate quality. Moreover, annual rankings of the nation's best colleges generally disregard what students experience in the classroom and around campus. The content of the NSSE, however, is firmly grounded in the student development literature and focuses on best practices known to engage students and foster learning.

Since its inception four years ago, over 700 different colleges and universities have participated in this innovative assessment project. Research has confirmed the expected link between student engagement and academic success. Scores on all five benchmarks of effective educational practice are positively correlated with students' grade point averages. We now know, for example, that students benefit greatly when they work with faculty on projects outside of class, complete assignments requiring them to synthesize ideas learned in different courses, and converse with diverse groups of students about their readings. From this perspective, the best colleges and universities develop practices to help students channel their energies—inside and outside of the classroom—into activities that enhance their ability to solve complex problems, write and speak clearly, and contribute to the welfare of their communities.

UK's new Strategic Plan, *The Dream & The Challenge*, sets forth an objective to “engage students in rigorous educational programs and provide an environment conducive to success.” To measure our success in meeting this objective, the University will monitor whether its graduating seniors “exceed predicted levels of attainment” on the five NSSE benchmarks of effective educational practice. This year's

survey provides the first round of evidence for judging how effectively we engage undergraduates in our academic programs and offer worthwhile services that help them succeed.

#### *Selected Findings from NSSE 2003*

Over 400 colleges and universities took part in NSSE 2003. As part of a consortium led by the Council on Postsecondary Education, all public universities in Kentucky took part in this nationwide assessment project. At UK, a total of 626 first-year students and seniors completed the survey—nearly twice the number of students who participated two years ago. UK institutional research staff arranged with the Indiana University Center for Postsecondary Research and Planning to expand the size of UK's sample to reduce the margin of error associated with the standard sample sizes drawn from most institutions. The larger sample ensures that students' performances on the five benchmarks will be measured with greater precision than the last time UK participated in this project.<sup>2</sup>

One of the strong points of this research project is the administration of the survey by a credible, ‘third-party’ survey organization. First-year and senior students were randomly chosen from electronic data files furnished by participating institutions. Most students had the option of completing either a standard paper survey or a Web-based version. At UK, a little over half of the students completed the paper form of the questionnaire.

<sup>1</sup> The NSSE was developed by a team of nationally renowned educators and researchers: Alexander Astin, Gary Barnes, Arthur Chickering, Peter Ewell, John Gardner, George Kuh, Richard Light, and Ted Marchese—with guidance from C. Robert Pace.

<sup>2</sup> Both the national sample and the UK sample are fairly representative of the student populations from which they were drawn. However, both samples contain a somewhat greater proportion of female students than would be expected based on the gender make-up of the respective populations. Response rates for NSSE 2003 were 43% for the overall sample, 34% for UK students, and 38% for the consortium of eight public universities from Kentucky. At UK, the survey's margin of error was  $\pm 5.4\%$  for first-year students and  $\pm 5.3\%$  for seniors.

## Five Benchmarks of Effective Educational Practice

NSSE researchers clustered forty items on the survey into five benchmarks of effective educational practices: 1) level of academic challenge, 2) active and collaborative learning, 3) student interactions with faculty members, 4) enriching educational experiences, and 5) supportive collaborative environment. Scores on the five benchmarks were later converted to a set of 100-point scales. The resulting scores for UK and other doctoral research extensive institutions are depicted in the first five graphs in this newsletter.<sup>3</sup>

To facilitate comparisons with similar institutions, NSSE staff translates students' raw score performances on the five benchmarks into 'ranges of percentile scores.' The percentile rank of a score denotes the percentage of students in the comparison group who earn lower scores. Thus, a score at the 60<sup>th</sup> percentile is higher than scores earned by 60 percent of the institutions in the comparison group. UK institutional research staff report percentile ranges for UK students in the narrative for each benchmark. Readers should be aware that the benchmark scores on the following graphs reflect institutional standings on the 100-point scales described above; the results depicted in the graphs do not represent percentile ranks.

Finally, as a supplement to the raw scores and percentile ranges, we report 'predicted scores' for each of the five benchmarks. The NSSE staff developed the 2003 Institutional Engagement Index as a way for institutions to determine whether they were doing better or worse than anticipated, based upon their unique configuration of institutional and student characteristics. To be sure, research on the NSSE has found a significant correlation between benchmark scores and a variety of institutional and student characteristics. For instance, the level of academic challenge students experience is associated with the selectivity of an institution and its public/private status. In the 2003 Institutional Engagement Index, UK's predicted scores are statistically adjusted to account for a variety of institutional char-

<sup>3</sup> For interested readers, the Office of Institutional Research's website contains a variety of NSSE-related reports, including: the 2003 NSSE Institutional Benchmark Report: University of Kentucky, a complete set of tables containing the NSSE 2003 Means Summary Report, and the 2003 Institutional Engagement Report. The reports on the website can be accessed at: [www.uky.edu/IR/survey.html](http://www.uky.edu/IR/survey.html).

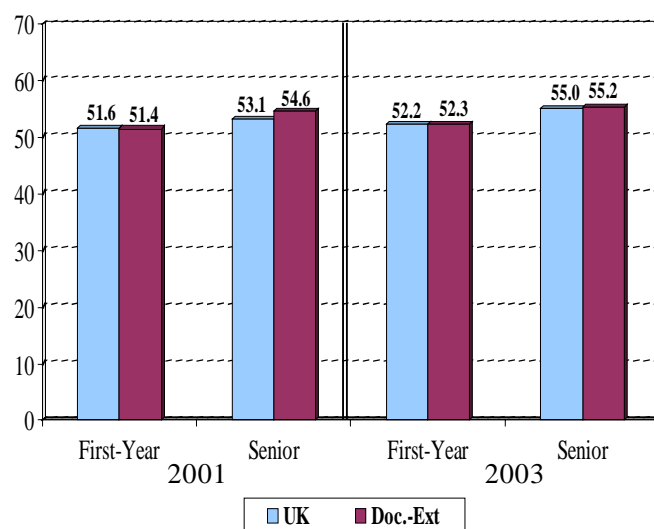
acteristics (e.g., selectivity, public/private status, size, urbanicity, and Carnegie Classification) and student variables (e.g., sex, age, race/ethnicity, age, part-time/full-time status, and major). By comparing UK students' actual and predicted scores, the reader will be able to gauge UK's success in meeting a set of key strategic indicators established in *The Dream & The Challenge*.

### Benchmark I: Level of Academic Challenge

The "Academic Challenge" benchmark consists of 11 items that measure the degree to which students report expending academic effort and meeting high expectations in their coursework. The indicator examines a variety of activities and conditions, including:

- Students' level of preparation for class (studying, reading, writing, etc.)
- The number of assigned books and written papers or reports of varying length
- The types of cognitive demands emphasized by coursework

### Level of Academic Challenge



UK first-year students and seniors reported greater levels of academic challenge than they did in 2001, but still scored slightly below their counterparts at other doctoral/research extensive institutions. Both groups scored near the 50<sup>th</sup> percentile on this benchmark. On individual benchmark items, first-year students at UK indicated that they were assigned a greater number of written papers or reports between 5 and 19 pages. Our freshmen also reported spending more

time preparing two or more drafts of an assignment than students at similar universities. Relative to their comparison group, UK seniors reported fewer numbers of assigned textbooks, books, or book-length packs of course readings.

### Actual vs. Predicted Scores on the Level of Academic Challenge Benchmark

Students' Class	Actual Score	Predicted Score	Residual	Standardized Residual
First-Year	52.2*	50.5	1.7	0.6
Senior	54.4*	52.9	1.5	0.5

\*Note: The actual scores for this benchmark may differ slightly from the scores reported in the NSSE Benchmark Report and the above graph. The scores in the Benchmark Report are adjusted according to students' enrollment status. This adjustment is not reflected in the actual score in the above chart because it was included in the regression model used to generate the predicted scores.

In comparisons of actual and predicted scores, UK first-year students and seniors performed better than expected after statistically controlling for institutional and student characteristics. The 'residual' in the above chart is the difference between the actual score and the predicted score generated by the NSSE staff. The 'standardized residual' conveys the residual score in standard deviation units and provides an indication of how well our students performed in relation to other NSSE institutions.

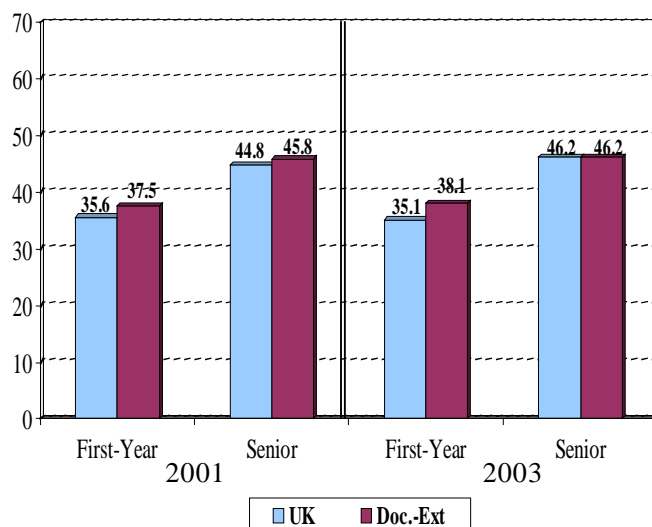
A standardized residual of .5 denotes a score that is greater than approximately 69 percent of all NSSE colleges and universities. First-year students achieved a standardized residual of 0.6, while seniors earned a standardized residual of 0.5. Consequently, our students outperformed roughly seven of ten NSSE institutions on this benchmark after controlling for institutional and student characteristics.

### Benchmark II: Active and Collaborative Learning

Seven items assessing students' level of involvement in their education comprise this benchmark. Examples of questions from the "Active and Collaborative Learning" benchmark include the frequency of:

- Participation in class discussions
- Work with other students on class projects
- Discussions about readings with others outside of class

### Active and Collaborative Learning



Between 2001 and 2003, the performance gap between UK freshmen and their counterparts at other doctoral/research extensive institutions widened slightly on this benchmark. Seniors improved on their performance from two year's ago and achieved benchmark scores identical to their counterparts at other research universities. Compared to their peers, our freshmen scored between the 10<sup>th</sup> and 20<sup>th</sup> percentiles and seniors scored at the 50<sup>th</sup> percentile. A few items accounted for first-year students' relatively low standing on this benchmark. Relative to their counterparts at similar institutions, UK freshmen reported working less frequently with classmates outside of class to prepare class assignments. They were less likely to participate in a community-based project as part of a regular course. And first-year students were less apt to discuss ideas from their readings or classes with others outside of class. On this latter item, UK seniors were also less likely than their peers at like institutions to discuss course-related ideas with students, family members, and co-workers outside of class. But UK seniors were more likely to report working with other students on projects during class.

### Actual vs. Predicted Scores on the Active and Collaborative Learning Benchmark

Students' Class	Actual Score	Predicted Score	Residual	Standardized Residual
First-Year	35.1	37.0	-1.8	-0.5
Senior	46.2	45.8	0.4	0.1

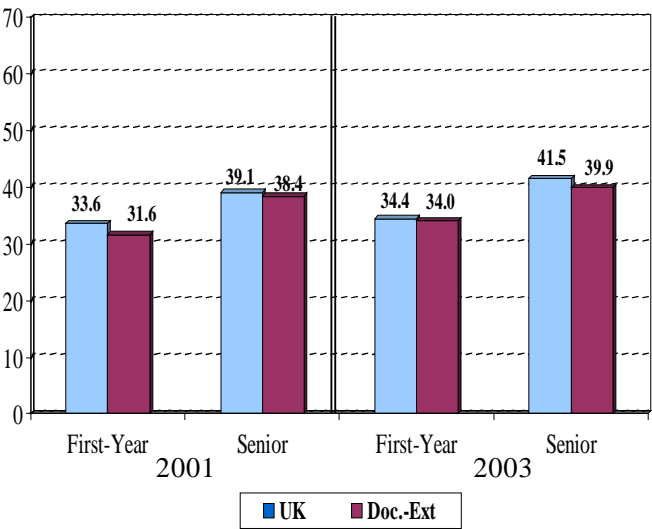
On the Institutional Engagement Index for this benchmark, our seniors performed slightly better than expected. The standardized residual for seniors, 0.1, indicates that they outperformed just over half of the NSSE institutions when actual and predicted scores were taken into account. However, first-year students performed well below their anticipated level of performance. The  $-0.5$  standardized residual for this group suggests that our first-year students better on this indicator than roughly 3 of 10 NSSE institutions.

**Benchmark III: Student Interaction with Faculty**

This benchmark is based on six items that tap students’ involvement with faculty in and outside of the classroom. Questions on this indicator ask students to report the frequency of their discussions with faculty on such varied topics as:

- Grades or assignments
- Career plans
- Ideas from class readings

**Student-Faculty Interaction**



Other items assess the frequency of prompt feedback from faculty and participation in research projects outside of course or program requirements.

Faculty members at UK have a right to feel proud of our standing on this benchmark. Consistent with their performance two years ago, our first-year students and seniors reported somewhat greater involvement with faculty than their counterparts at large research universities. First-year students and seniors scored between the 60<sup>th</sup> and 70<sup>th</sup> percen-

tiles on this performance indicator. On this benchmark, both UK freshmen and seniors reported having more frequent discussions of their career plans with a faculty member or advisor than their counterparts at other institutions. First-year students, however, reported fewer experiences working with faculty members on research projects outside of course or program requirements.

**Actual vs. Predicted Scores on the Student-Faculty Interaction Benchmark**

Students' Class	Actual Score	Predicted Score	Residual	Standardized Residual
First-Year	34.4	33.1	1.3	0.3
Senior	41.5	39.1	2.4	0.6

The actual scores earned by freshmen and seniors exceeded the expected scores on this benchmark. First-year students and seniors achieved standardized residuals of 0.3 and 0.6, respectively. These statistics suggest that UK freshmen outperformed approximately 60% of NSSE institutions, while senior achieved better scores on the institutional engagement index than approximately 70% of colleges and universities participating in the survey.

**Benchmark IV: Enriching Educational Experiences**

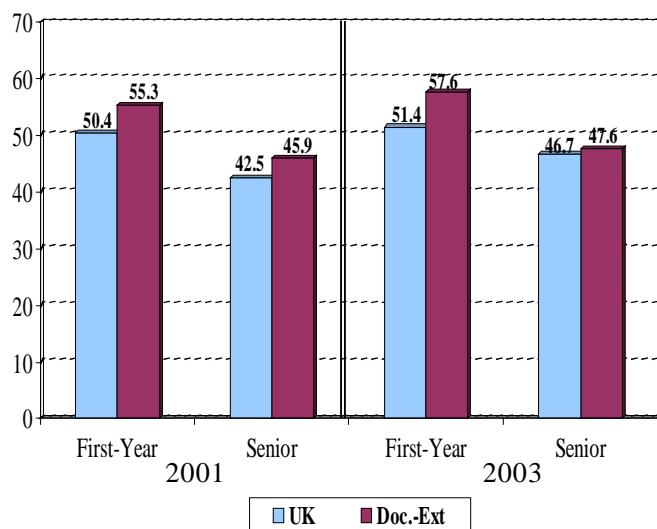
This benchmark is based on 10 items that measure students’ reported involvement and exposure to enriching experiences. Benchmark items include self-reported participation in the following:

- Community service or volunteer work
- Internships or co-op experiences
- Co-curricular activities, such as student government, sports and organizations
- Serious conversations with groups of diverse students

As in 2001, UK first-year students and seniors scored well below their counterparts at other doctoral/research extensive institutions on this benchmark. UK freshmen scored below the 10<sup>th</sup> percentile and seniors scored just below the 50<sup>th</sup> percentile. The poor performance of our first-year students on this benchmark can be attributed primarily to the way they answered several diversity-related items. Relative to their comparison group, freshmen reported that their institution placed less emphasis on encouraging contact among students from different economic, social, and racial or ethnic



## Enriching Educational Experiences



backgrounds. Moreover, freshmen reported that they were less apt to have serious conversations with students of different religious beliefs, political opinions, or personal values. Finally, both first-year students and seniors reported that they were less likely to hold serious conversations with students of a different race or ethnicity.

### Actual vs. Predicted Scores on the Enriching Educational Experiences Benchmark

Students' Class	Actual Score	Predicted Score	Residual	Standardized Residual
First-Year	51.4	53.7	-2.3	-0.6
Senior	46.7	45.9	0.8	0.2

The above chart shows that seniors performed better than expected on this benchmark, after controlling for various institutional and student-related factors. The standardized residual of 0.2 indicates a performance somewhat above the 50<sup>th</sup> percentile. UK first-year students, however, scored well below their anticipated level of performance on the Enriching Educational Experiences benchmark. The standardized residual of -0.6 indicates that freshmen scored below the 30<sup>th</sup> percentile on the Institutional Engagement Index for this performance indicator.

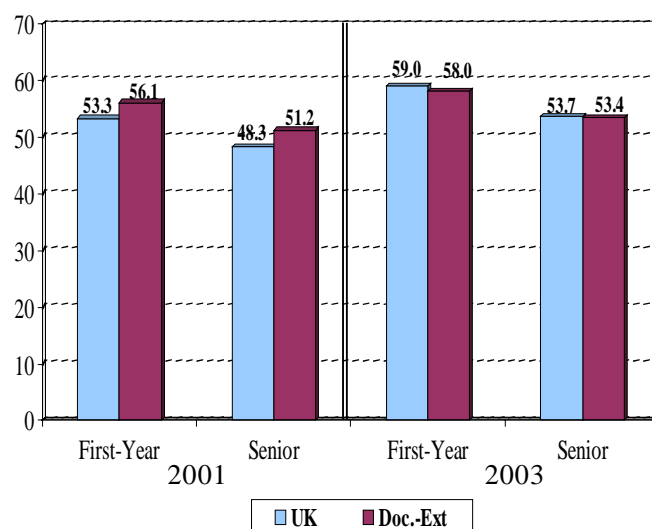
### Benchmark V: Supportive Campus Environment

The final benchmark measures students' perceptions regarding their institution's support for their academic and social con-

cerns. The six items in this cluster assess the level of support provided by the campus environment to help students:

- Succeed academically
- Cope with non-academic responsibilities
- Thrive socially

## Supportive Campus Environment



Other items measure the perceived quality of relationships with other students, faculty members, and administrative personnel.

Two years ago, UK students' evaluations of campus support were well below their counterparts at other doctoral research extensive institutions. In 2003, both freshmen and seniors rated the level of campus support much more favorably and surpassed the average ratings assigned by their peers in the comparison group. Freshmen scored above the 60<sup>th</sup> percentile, while seniors scored above the 50<sup>th</sup> percentile. UK students' evaluations on most of the items comprising this benchmark did not differ significantly from students at like institutions. The exception was the item that asked students to evaluate the quality of their relationships with administrative personnel and offices. Our freshmen and seniors assigned significantly higher ratings to this item

### Actual vs. Predicted Scores on the Supportive Campus Environment Benchmark

Students' Class	Actual Score	Predicted Score	Residual	Standardized Residual
First-Year	59.0	57.6	1.4	0.4
Senior	53.7	52.7	1.0	0.2

than students at other doctoral research extensive universities.

Our first-year students and seniors achieved scores that exceeded the NSSE staff’s predictions on the Institutional Engagement Index for this benchmark. The standardized residuals were 0.4 for first-year students and 0.2 for seniors. This places the performance of freshmen on this indicator between the 60<sup>th</sup> and 70<sup>th</sup> percentiles and above the 50<sup>th</sup> percentile for seniors.

**Actual vs. Predicted Benchmark Scores: A Scorecard**

The university community should feel gratified by the progress our students have made as reflected in NSSE’s Institutional Engagement Index Report. The chart below provides snapshots of our success in exceeding the predicted scores generated by the NSSE project staff. First-year students topped their anticipated scores on two of the five benchmarks in 2001. Two years later, UK freshmen exceeded their predicted scores on three benchmarks. Seniors’ scores showed a more dramatic change over time. In 2001, their scores surpassed NSSE predictions on only one of the five benchmarks. But seniors performed better than their expected level on all five benchmarks in 2003!

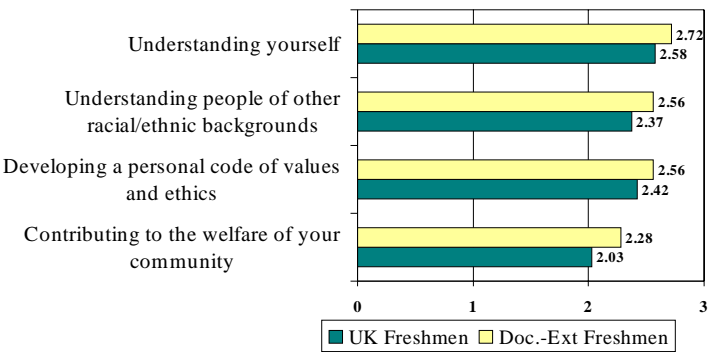
**Number of Benchmarks on Which UK Students Exceeded Predicted Scores**

Students’ Class	2001 Exceeded/Total	2003 Exceeded/Total
First-Year	2/5	3/5
Seniors	1/5	5/5

**Other Findings of Interest to the UK Community**

**Institutional Contributions to Personal Development**  
NSSE asks students to evaluate the extent to which their experiences at an institution have contributed to their knowledge, skills, and personal development in a number of areas. The accompanying graph contrasts the perceptions of UK first-year students and their counterparts in the national sample for four questions related to their personal growth. Our freshmen gave significantly lower marks to UK’s contribution in these four areas than freshmen at like institutions,

**Institutional Contributions to Personal Development  
Mean Scores of First-Year Students**



although the differences in ratings were fairly small in magnitude.

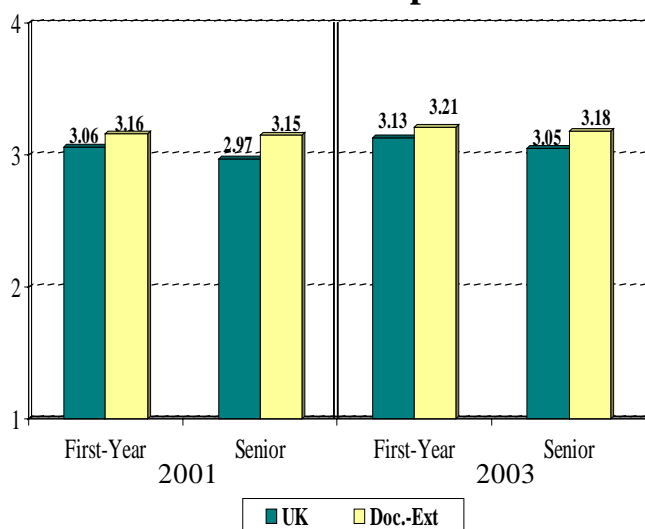
Two findings presented in the above graph are consistent with the results of other survey items. First, students’ ratings of UK’s contribution to their racial and ethnic understanding of people parallel the relatively low evaluations on other diversity-related survey items. The bulk of these findings suggest that UK freshmen and, to some extent, seniors do not interact frequently with students of other races and ethnicities. To assess the overall campus climate, the President’s Commission on Women, in collaboration with the Office of Institutional Research, will administer a university-wide climate survey in the spring to gather more detailed information on the perceptions, attitudes and behaviors of undergraduate and graduate students.

Second, the item assessing the University’s role in encouraging students to contribute to the welfare of their community can be viewed side-by-side with the question that assesses participation in a community-based project as part of a regular course. UK freshmen reported significantly less participation in such courses than their counterparts at other doctoral research extensive institutions. However, there is a growing awareness on this campus that service-learning projects can produce positive academic outcomes, as well as promote caring and civic responsibility in our students. The UK FUSION project conducted earlier this fall represents a commitment on the part of Student Affairs staff to provide undergraduates with volunteer opportunities that will not only make Lexington a better place to live but also instill a spirit of civic-mindedness in those who participated.

## Student Satisfaction

The NSSE questionnaire asks students, “How would you evaluate your entire educational experience at this institution?” Judgments are made on a four-point scale ranging from ‘poor’ to ‘excellent.’ The accompanying graph compares the average ratings of UK freshmen and seniors with their peers at other doctoral/research institutions. In 2001, our first-year students’ evaluations did not differ significantly from counterparts at like institutions. But UK seniors assigned significantly lower ratings to their educational experience relative to their comparison group. In 2003, despite an increase in the favorability of UK students’ ratings, both groups of students reported significantly less satisfaction than students at other large research universities. While differ-

**Satisfaction with One’s Entire Educational Experience**



ences in satisfaction levels are statistically significant, the magnitude of the rating differences is fairly small (i.e., effect sizes under .2).

### *Where do we go from here?*

As we emphasized two years ago, NSSE deals primarily with students’ perceptions of their own behavior and of institutional resources and practices. We should acknowledge that perceptions can be as much a product of one’s expectations as objective reality. Even so, it would be foolish not to take students’ perceptions seriously. After two years of collecting in-depth survey data on our newest students, it is apparent that many freshmen have unrealistic expectations about the amount of time they need to study and

prepare for class to be successful. Changing academic expectations on any college campus is not an easy task. However, the academic climate on campus is an area of strategic importance that needs to be addressed in future years.

George Kuh (2000), Director of NSSE, succinctly expresses this position:

“What students do in college and how they use an institution’s resources for learning are critical to their success broadly defined . . . Students do better academically and socially when they apportion reasonable chunks of time to a combination of the right kinds of activities, such educationally purposeful things as studying, interacting with faculty members, advisors, and right-minded peers, performing community service, and participating in co-curricular activities.”<sup>4</sup>

Clearly, the NSSE 2003 results suggest that the greatest challenge to UK faculty and administrators over the next two years will be in raising first-year students’ scores on the Active and Collaborative Learning benchmark and the Enriching Educational Experiences benchmark. Our students, particularly freshmen, need to be encouraged to work with their classmates outside of class on assignments. Faculty members can support the active learning needs of their students by developing community-based projects as part of their regular courses. Moreover, colleges and departments need to tackle the thorny issue of how to create a more intellectual atmosphere on campus—one in which students look forward to mulling over ideas discussed in class with their classmates over a cup of coffee. Research shows that students benefit greatly when they spend more time on task and are required to meet high expectations.

UK needs to sustain the progress it has made in recent years in attracting a more diverse student body. The fall 2003 freshman class set a record for the number of African American students enrolled at UK. This achievement is a step forward in diversifying our fairly homogeneous student body. But more successful recruiting years will be needed before the campus environment facilitates frequent out-of-class contact among students of different social, racial, or ethnic backgrounds. Since contact with students from diverse back-

<sup>4</sup> Kuh, G.D. (2000, p.1). Tools for assessing the first-year student experience. *First-Year Assessment Listserv*. <http://www.Brevard.edu/fyc/listserv/remarks/kuh.htm>.

---

grounds leads to a variety of positive educational outcomes, we may want to encourage more of our students to study abroad and immerse themselves in another culture. Currently, UK first-year students are significantly less likely than their counterparts at other research institutions to make plans to study abroad.

Let's be clear about the intent behind our recommendations. The rationale for modifying the curriculum and strengthening support services is not simply to raise benchmark scores on the NSSE or to satisfy the University's key strategic indicators. The overarching purpose for implementing changes in academic programs and student services is to enhance the quality of learning and improve students' chances for success.

We recommend the appointment of a NSSE Taskforce composed of faculty, staff, and administrators charged with reviewing survey results and identifying areas where UK students fall short of the desired performance level. The task force should be charged with learning how other institutions are using their NSSE results and developing university-wide initiatives to address our own shortcomings. At the same time, colleges and departments should take responsibility for 'drilling down' into the NSSE data to evaluate the level of engagement of their own students and plan necessary improvements to the curriculum.<sup>5</sup> NSSE findings can be used to plan a variety of programmatic changes, from the implementation of new living-learning communities to the re-tooling of existing capstone courses. Research on the use of NSSE data shows that the survey's potential for effectuating meaningful change can be multiplied if a cross-section of faculty and staff use selected findings to support a variety of reform activities.

<sup>5</sup> The UK Institutional Research Office will arrange to obtain UK's data from the NSSE project staff. In addition, the Office will either furnish academic units with their students' raw survey data or analyze selected survey items for them.



*Office of Institutional Research*  
103B Alumni Gym  
Lexington, KY 40506-0029  
859-257-1633  
<http://www.uky.edu/IR/>