

**EVIDENCE OF THE ASSURANCE OF LEARNING
FOR UNDERGRADUATES AT KSU:
SELECTED RESULTS FROM THE
2004 NATIONAL SURVEY OF STUDENT ENGAGEMENT**

**Center for Institutional Effectiveness
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KSU's results from the 2004 National Survey of Student Engagement (NSSE) contained strong and substantial evidence of the assurance of learning in the university's undergraduate educational experience. The overall educational experience at KSU was highly rated by first-year and senior students. Findings affirmed high levels of assurance of learning in the fundamental learning outcomes of General Education and the baccalaureate program as a whole. Substantial educational gains were noted between the first-year and senior experiences. Generally, the rigor and quality of the educational experience at KSU were comparable to and on par with those at comparator institutions at the national level. In a few instances, especially those involving the use of instructional and information technology, KSU was significantly stronger than national comparators. KSU's emphasis on higher-order critical thinking skills was affirmed. Opportunities for improving undergraduate education at KSU were also indicated.

High Student Satisfaction with KSU's Entire Educational Experience

The educational experience at KSU received high marks in the NSSE survey results (items 13 and 14). Nine out of every 10 first-year and senior respondents rated their entire educational experience at KSU as "good" or "excellent." A similarly high proportion of both respondent groups would attend KSU again if they could start college over again. A miniscule 1 to 2% rated their educational experience at KSU as "poor" and would definitely not attend KSU if they could start over. The remaining one out of every ten rated their KSU experience as "fair" and would "probably not attend" the university again.

Although these results show a high level of student satisfaction with KSU, they also reflect substantial room for improvement in that only four in every ten first-year and senior students rated their educational experience at KSU as "excellent." The most often selected rating was "good," and that was given by five out of every 10 respondents. Furthermore, KSU students were not significantly different from national comparator groups (the Master's I and II Carnegie sample and the total NSSE four-year sample) in the satisfaction ratings of their collegiate experiences. Thus, KSU's mission to achieve educational excellence is partially supported, but not fully realized, in these results.

Evidence of KSU's Strength in the Fundamentals of Undergraduate Education

KSU students in their first year and senior year were asked how much their experience at this university had contributed to their knowledge, skills, and personal development in 16 learning outcomes (Educational & Personal Growth, items 11a - 11p) on a four-point scale of very little, some, quite a lot, and very much. For ease of interpretation, the survey results for the two student groups were converted to percentages of respondents who said that their KSU experience contributed greatly ("quite a lot" or "very much") to their achievement of these learning outcomes. KSU's educational experience was reported to be especially powerful in the fundamentals of undergraduate education.

The KSU experience was frequently reported to have a strong impact on developing nine fundamental outcomes of knowledge and skill in undergraduate education. For example, nine out of every 10 KSU respondents in the 2004 NSSE reported that their KSU experience contributed greatly to their acquisition of a broad general education. In addition, the vast majority of the first-year and senior students, typically three-fourths or more, credited the KSU experience greatly for their acquisition of knowledge and skills in critical thinking, writing, speaking, quantitative analysis, computer usage, working with others, independent learning, and job-related career preparation. Of the 16 undergraduate learning outcomes rated, these nine are arguably the most fundamental and important for a sound educational experience at a comprehensive public university like KSU. (See the top nine listings in Table 1.)

Table 1

Percent of Students Crediting the KSU Experience Greatly for Contributing to 16 Undergraduate Learning Outcomes and the Significance of Gains from the First Year to the Senior Year

Contribution to Learning Outcome	% "Quite a Bit" or "Very Much"		
	1st-Yr	Senior	Difference*
Nine Fundamentals			
Acquiring a broad general education	85%	87%	Not Significant
Thinking critically and analytically	77%	88%	Significant
Using computing and information technology	76%	81%	Not Significant
Writing clearly and effectively	72%	84%	Significant
Working effectively with others	71%	83%	Significant
Learning effectively on your own	67%	72%	Not Significant
Analyzing quantitative problems	59%	75%	Significant
Speaking clearly and effectively	58%	78%	Significant
Acquiring job or work-related education	50%	74%	Significant
Four Additional Notables			
Understanding yourself	52%	56%	Not Significant
Solving complex real-world problems	47%	59%	Not Significant
Understanding people of other races	46%	50%	Not Significant
Developing personal values and ethics	40%	45%	Not Significant
Weakest Outcomes			
Contributing to your community	28%	31%	Not Significant
Voting in local, state, national elections	28%	20%	Not Significant
Developing deepened spirituality	18%	9%	Not Significant

* Significance of differences tested using Chi Square at $p < .05$, d.f. = 1.

KSU not only received high marks from the majority of first-year and senior students on the fundamentals, the percentages of seniors who gave great credit to the KSU experience were even higher for all nine learning outcomes. In six of those nine comparisons, the apparent gains from the first year to the senior year were statistically significant and large enough to be meaningful as well. It is affirming to see evidence that critical thinking skills, writing skills, teamwork, quantitative skills, speaking skills, and career-related education grow significantly as KSU undergraduates progress from the freshman to the senior years.

In addition to the nine fundamentals, there were four additional learning outcomes for which the KSU experience had a notable impact. About half of the respondents reported that their KSU experience contributed greatly to their growth in self-understanding, appreciating racial diversity, solving real-world problems, and developing personal values/ethics. The evidence of assurance of learning for these four outcomes in the KSU experience is notable, but is mixed since roughly half of the respondents reported that their KSU experience contributed only some or very little to the achievement of these four learning outcomes. The gains from the freshman year to the senior year in those four areas appeared to be positive, but were not large enough to be statistically significant. (See the middle four listings in Table 1.)

Finally, the NSSE results suggest that the KSU experience had the least impact on contributing to the development of community service, participation in the democratic process, and spirituality. (See the lowest three listings in Table 1.) The lack of KSU's impact in deepening the spirituality of undergraduate students is understandable given the public nature of the university and its traditional separation of church and state. However, the modest effect of the KSU experience in fostering democratic responsibility and community service is disappointingly low. This low impact, however, was not significantly different from an equally low impact reported by students from other institutions in the American Democracy Project nationally.

Some interesting findings emerged from a closer look at how KSU freshmen and seniors responded when asked whether they had planned to do community service or volunteer work before they graduate (item 7b). Three in 10 freshmen reported that they had done community service or volunteer work and that proportion grew to five in 10 for KSU seniors. An additional three in 10 freshmen planned to do community service or volunteer work before graduation and that proportion shrunk to one in 10 for the seniors. Both of these changes from the freshman to the senior year were statistically significant.

The proportion of freshmen who were undecided or did not plan to do community service (four in 10) was not significantly different from the proportion of KSU seniors reporting those same responses (four in 10). These results suggest that KSU students may be doing more community service and volunteer work than the learning outcomes analysis may have indicated. However, a lack of perceived emphasis on service in the KSU experience may have contributed to a lack of growth in the proportion of students who did or planned to do volunteer work and community service between the freshman and senior years.

Gains Between the First Year and Senior Year in the Fundamentals of Undergraduate Education

Six of the 16 learning outcomes reflected statistically significant gains between the first year and senior year in the proportion of students who reported a great impact from their KSU experience. All six of the significant gains were in one of the nine fundamental learning outcomes -- specifically thinking critically, writing effectively, working with others effectively, analyzing quantitative problems, speaking effectively, and acquiring work/job-related education. The other 10 differences, most of which were in the expected direction of a gain, were too small to be statistically significant. (See differences column in Table 1.)

These results provide noteworthy evidence of the value-added contributions of KSU's total undergraduate educational experience in areas of student learning that are fundamental and vital for academic success. KSU's undergraduate degree programs are intentionally designed to reinforce and deepen analytical and communication skills, teamwork, and educational specialization between the first year and the last year of baccalaureate studies. These data support the conclusion that the university is achieving its expected results for these key educational objectives.

These findings were reinforced by the responses of KSU freshmen and seniors to the question about the frequency of making class presentations (item 1b). Making successful class presentations draws upon many of the fundamental areas of student learning and demonstrates a high level of academic proficiency. Significantly more KSU seniors than their national counterparts reported making class presentations often. Furthermore, 79% of KSU seniors compared to 37% of KSU first-year students reported making class presentations often. This significant and substantial gain in class presentations between the first year and senior year at KSU reflects well on the strength of KSU's educational experience.

Evidence that Assurance of Learning at KSU is Solidly on Par with National Comparators

KSU's results from the NSSE on most of the 16 student learning outcomes and the two student satisfaction items are very similar to and not significantly different from the results of comparator groups at the national level. The few exceptions had a small effect size and are not especially notable. Basically, KSU first-year and senior students reported learning outcomes and satisfaction ratings that were no better and no worse than those reported by the entire national sample of NSSE respondents as well as by those in the national sample from Master's I & II Carnegie classifications. Consequently, these data suggest that KSU's educational experience is solidly in the national mainstream of quality rather than exceptional or above average.

The few exceptions where KSU students had significantly greater or significantly lower ratings than students from the national comparator groups are summarized in Table 2. A statistically significant, but only modestly higher, difference was found for the impact of the KSU experience on analyzing quantitative problems (for seniors only). KSU's election of two math requirements in its General Education program and its heavy distribution of baccalaureate majors with quantitative course requirements may have contributed to the greater quantitative analysis finding for KSU seniors.

KSU's significantly greater impact on the development of computing and information technology skills for freshmen and seniors affirms the value of the institution's extensive investments for improving instructional and information technology under a CIO over the past five years. This significant distinction for KSU on a key fundamental learning outcome was reinforced by results from three additional NSSE items related to technology (items 1l, 1m, and 10g). Nine out of every 10 freshmen and seniors reported that KSU places great emphasis on the use of computers in academic work. Significantly more KSU students reported this strong emphasis than their counterparts at other Masters I & II institutions, although the difference was rather modest (90% of KSU freshmen compared to 83% elsewhere and 92% of KSU seniors compared to 87% elsewhere). In addition, KSU seniors reported using an electronic medium to complete assignments significantly more often than students in the national comparator groups. This difference was much more notable in size (81% of KSU seniors often did so compared to 59% of both national samples). KSU seniors also reported using email to communicate with their instructors significantly more often (87% of KSU seniors often did compared

to 76% and 79% of the two national samples respectively). What is particularly interesting in this regard are the significantly large gains made by KSU students from their freshmen to senior years in using technology to complete assignments (58% of KSU freshmen often did so compared to 81% of KSU seniors) and to communicate with their professors (63% of freshmen compared to 87% of seniors). The convergence of these findings confirms the notable strength of the use of computing and information technology in KSU's educational experience.

Table 2

**The Few Learning Outcomes Where Significant But Modest Differences were Found
Between Respondents from KSU and National Comparator Groups***

Contributions to Learning Outcomes and the Group	% "Quite a Bit" or "Very Much"		
	KSU	Master's	NSSE
Using computing and information technology - 1st Year	76%	65%	65%
Using computing and information technology -Senior	81%	76%	76%
Analyzing quantitative problems - Senior	75%	65%	65%
Developing personal values and ethics - 1st-Year	40%	53%	54%
Developing personal values and ethics - Senior	45%	58%	59%
Contributing to your community -1st-Year	28%	39%	41%
Contributing to your community - Senior	31%	44%	45%
Developing deepened spirituality - 1st-Year	18%	33%	33%
Developing deepened spirituality -Senior	9%	30%	30%

*Significant differences determined by NSSE in means comparisons (two-tailed) $p < .05$

Explanations for the significantly lower reported impact of the KSU experience on ethical development, spiritual development, and community service as listed in Table 2 are not readily apparent. It is conceivable that these differences are not a function of what KSU is doing or not doing educationally, but are related instead to the greater representation of nontraditional students in KSU's respondent groups. Forty-seven percent of KSU's first-year respondents to NSSE were older than the traditional age of 19 or younger for freshmen compared to 15% and 12% in the two national comparator groups respectively. Similarly for seniors, 54% of KSU's respondent group were over the traditional age of 23 compared to 38% and 31% in the two comparator groups. It is reasonable to assume that nontraditional age students come to college with an established and highly developed sense of ethics, spirituality, and community service as a function of their extensive life experiences and are not impacted by the KSU experience as much as the younger, less mature traditional age students might have been in the comparator groups.

KSU Coursework Emphasizes Critical Thinking Skills

No notable differences existed between KSU students and the national samples in their reports of coursework emphasis on critical thinking and higher-order learning skills. However, there were several important findings between lower-order and higher-order thinking skills within KSU between freshmen and seniors.

For example, both first-year and senior students reported the least emphasis in their coursework on the lower-order thinking skills of memorizing facts and ideas and the most emphasis on the higher-order thinking skills of analyzing ideas and experiences. This difference was significant and most notable for seniors. That finding corresponds to the ideals of the educational philosophy in higher education in which critical thinking, especially analyzing and synthesizing information, is valued more than rote memorization.

KSU seniors also reported significantly greater emphasis in their coursework on analyzing and synthesizing activity than freshmen reported for their first-year experience. That finding is consistent with expectations that upper division coursework would entail greater higher-order thinking skills than lower division coursework as students advance in their collegiate studies. (See Table 3.)

When the actual academic and intellectual experiences of KSU students were compared to their national samples, KSU first-year and senior students reported having significantly more synthesizing assignments, although the differences were modest in size. Synthesizing mental activities require the student to organize ideas, information, and experiences into new, more complex interpretations and relationships. KSU freshmen and seniors reported working significantly more often than their national counterparts on a paper or project that required integration of ideas or information from various sources (item 1d). Significantly more reported putting together ideas or concepts from different courses when completing assignments or during class discussions (item 1i). This building block effect of drawing on other courses increased significantly and very substantially from the freshman to the senior year for KSU students (52% of first-year students often did so compared to 75% of seniors).

Table 3

KSU Coursework Emphasis on Critical Thinking

Coursework Emphasizes	% "Quite a Bit" or "Very Much"		
	1st-Yr	Senior	Difference*
Analyzing	73%	88%	Significant
Synthesizing	63%	78%	Significant
Applying	74%	82%	Not Significant
Evaluating	68%	76%	Not Significant
Memorizing	63%	69%	Not Significant
Difference Between Analyzing and Memorizing	Not Significant	Significant	

Significance of differences tested with Chi Square $p < .05$, d.f. = 1

KSU's Academic Rigor is on Par with its National Comparators

KSU freshmen and seniors were typically not significantly different from their national counterparts in their ratings of the rigor of their educational experiences. No significant differences in rigor were found in their reports of time studying on academic work (item 10a), the challenging nature of examinations (item 3), the difficulty of problem sets (items 5a and 5b), the number of long written papers or reports (items 4c and 4d), the number of assigned books and readings (seniors only - item 4a), and the degree to which students worked harder than they thought they could to meet an instructor's expectations (item 1r). Clearly, the consistent convergence of these results confirms that KSU's academic rigor is on par with its national comparators and is no longer above average.

Opportunities for Follow-up and Faculty Conversations on the Assurance of Learning for KSU Undergraduates

The evidence of student learning resulting from KSU's participation in the 2004 NSSE suggests several questions and opportunities for follow-up and faculty deliberations in the assurance of learning for KSU undergraduates:

1. Are we satisfied with an overall educational experience at KSU for first-year and senior students that is strong, but not above average or exceptional in relation to our national comparators?
2. What could we do differently in the design and delivery of the KSU educational experience so that it is judged to be "excellent" rather than "good" by most first-year and senior students?
3. Could our existing strengths in the nine fundamentals of undergraduate education for first-year and senior students be improved further, and if so, how would we do that?
4. What more could we do to improve the impact of KSU's educational experience on the development of self-awareness, appreciation of diversity, ethics, community service, and democratic responsibility?
5. How could students, especially in their first year, be encouraged to use more higher-order learning and critical thinking skills?
6. How and where might we focus on improving educational gains between the freshman and senior experiences at KSU?
7. Is the KSU academic experience sufficiently rigorous to achieve educational excellence?
8. How can KSU better address the different educational needs of its traditional and nontraditional undergraduates?