

Research Reports

***Student Academic and Personal Growth
While at Boise State:
A Summary of 2002
National Survey of Student Engagement Findings***

***Research Report 2003-03
Marcia J. Belcheir, Ph.D.
Coordinator of Institutional Assessment***

***Boise State University
May, 2003***

ABSTRACT

This report focuses on the portion of the National Survey of Student Engagement that asks students about the impact the university had on their growth in a variety of personal and academic outcomes. The survey was given to a random sample of first-year students and seniors at Boise State; 44% returned the survey.

Thinking critically, writing effectively, and acquiring a broad general education were the three areas in which students felt they had been impacted the most. Voting in elections and contributing to the welfare of the community were at the bottom of the fifteen areas included in the survey. Seniors felt they had been impacted more than first-year students in a majority of the areas.

The extent that Boise State students felt the institution had impacted them was similar to other urban institutions in almost every area. One exception was that Boise State freshmen were less likely to report that the institution had helped them grow in using computing and information technology compared to students at other urban institutions. In addition, both first-year students and seniors were less likely to report strong growth in understanding people of other racial and ethnic backgrounds compared to students at other urban institutions.

Students who thought the institution had helped them grow more academically also tended to:

- Have more out-of-class group assignments
- Take more courses that emphasized analysis and application of theories to practical problems or new situations
- Take more challenging exams (that were valid indicators of their performance)
- Receive quality advising

- Have higher quality relationships with faculty
- Participate in fewer community-based projects as part of a course
- Have reached senior status

These findings indicate that moving beyond memorization and recall to analysis and application aids student learning, a finding echoed in the analysis of the 2000 NSSE data on growth (see RR 2001-02). The finding of *fewer* community-based projects being related to more academic growth is puzzling, however, and out of step with the other “active-learning” findings. The analysis of 2000 NSSE data indicated that more community-based projects were related to more personal growth.

In the present analysis, the extent that students felt the institution had helped them to grow personally could best be predicted by the extent that diverse perspectives were included in class discussion or assignments, the quality of relationships with administrative personnel and offices, and the course emphasis on making judgments about the value of information, arguments, or methods. In each case, higher ratings on the variables related to more personal growth.

These findings confirm that the university has a significant impact on student learning, both academically and personally. This impact is generally greater for seniors compared to first-year students. Much of this impact is due to faculty and their choice of the assignments, discussions, tests, and group projects that are part of the class. However, relationships outside of class are also critical to student development.

STUDENT ACADEMIC AND PERSONAL GROWTH WHILE AT BOISE STATE: A SUMMARY of 2002 NATIONAL SURVEY of STUDENT ENGAGEMENT FINDINGS

The role of the university is to help students develop the knowledge and skills needed to become educated and productive citizens in the modern world. This report presents information on the extent to which students felt their experiences at Boise State had contributed to their knowledge, skills, and personal development in ways ranging from acquiring a broad general education to contributing to the welfare of the community. The report is based on the responses of a random sample of first-year and senior students who took the National Survey of Student Engagement in the early part of 2002. Of the 700 students sampled, 44% (122 freshmen and 183 seniors) returned the survey.

This report will address the following questions:

- In what areas do Boise State students say the institution has helped them grow the most and the least? Do seniors say Boise State has helped them grow more than freshmen say it has?
- Have responses changed since the last time the survey was given two years ago?
- Do Boise State growth responses differ from those of students at other urban institutions?
- What combination of factors best predicts personal and academic growth?
- What outcomes do Boise State students consider to be most important?

FINDINGS

“Thinking critically and analytically” was the area where both freshmen and seniors agreed Boise State had impacted their growth the most, closely followed by “acquiring a broad general education” and “writing clearly and effectively.” The students also agreed on the areas where Boise State had contributed least to their growth. Clearly, voting in elections was at the bottom. Next was contributing to the welfare of the community. Results from other urban institutions and the nation also indicated that students were least likely to report significant growth in these two areas. See Tables 1 and 2 for further details.

Of the 15 outcomes included in the survey, seniors grew significantly more than freshmen in their ability to think critically, vote in elections, and contribute to the welfare of the community. Other areas where the institutional experience contributed more to senior than freshman growth were:

- Acquiring job or work-related knowledge and skills
- Using computing and information technology,
- Working effectively with others
- Learning effectively on their own
- Solving complex real-world problems

Boise State results were similar to those of other urban institutions (see [Appendix A](#) for a list of institutions included in the urban consortium) with only a few exceptions.¹ Boise State freshmen were less likely to report that the institution had helped them grow in using computing and information technology compared to elsewhere. In addition, both freshman and seniors were less likely to report strong growth in understanding people of other racial and ethnic backgrounds compared to students at other urban institutions.

Little had changed compared to the last administration of the survey in 2000. The only change was that both freshmen and seniors indicated that Boise State had contributed more to voting in local, state, or national elections. Thus, though voting remains on the bottom in terms of institutional impact on student growth, more students in 2002 felt that Boise State had played a role in their development in this area than did in 2000.

To understand what contributed to perceptions that the institution had (or had not) contributed significantly to growth in the 15 areas of the survey, ratings were reduced to two factors and combined scores on those two factors were calculated. Table 3 shows that the two factors could best be described as an Academic Growth factor and a Personal Growth factor.

The extent that students felt the institution helped them grow academically could best be predicted through a combination of:

- Working with classmates outside of class to prepare class assignments
- Participating in a community-based project as part of a regular course
- Taking courses that emphasized analysis and application of theories to practical problems or new situations
- Having examinations that challenged them to do their best work
- Receiving quality advising
- Establishing quality relationships with faculty
- Reaching senior status

Coursework that emphasized application was the most predictive variable followed by out-of-class group projects and challenging exams. All variables except one had a positive relationship with academic growth (i.e., higher ratings on the variable meant higher academic growth ratings, too). However, students who indicated they had participated in more community projects also had lower academic growth ratings; this variable also had the weakest relationship with the group of the variables included in the prediction. For further details, see Table 4.

Only three items formed the best prediction of personal growth: including diverse perspectives in class discussion or assignments, having quality relationships with administrative personnel and offices, and taking courses which emphasized making judgments about the value of information, arguments, or methods. In each case, having higher ratings on the variable related to more personal growth (see Table 5).

¹ Differences were considered significant if the effect size was .35 or larger

Aside from institutional impact on student growth, students also were asked about the importance of a series of eight outcomes. Both freshmen and seniors thought that thinking critically and analytically were most important to them, followed by acquiring job or work-related skills and writing clearly and effectively. Acquiring a broad general education was of least importance to seniors, while understanding people of other racial/ethnic backgrounds was of least importance to freshmen. Still, 40% of seniors thought a broad general education was very important and 80% thought it was moderately important or very important. Similarly with freshmen: 37% thought understanding people of other backgrounds was very important and 77% thought it was moderately important or very important.

Boise State freshmen and seniors had similar importance ratings in all areas but one: seniors thought developing computer and technology skills were more important than freshmen did. Boise State importance ratings were similar to those for other urban institutions in all outcome areas. Full details can be found in Tables 6 and 7.

CONCLUSIONS

This study addressed the issue of institutional impact on student learning across a variety of outcomes. Boise State freshmen and seniors thought the university had helped them grow most in thinking critically, acquiring a broad general education, and writing clearly. Thinking critically and writing were also tops in importance to students, along with obtaining job-related skills.

The outcome areas where students thought the university had helped them the least were those with a focus beyond the immediate campus classroom. They included contributing to the welfare of the community and voting. As expected, seniors indicated that the institution had had more impact on their growth in most areas than freshmen did.

In most areas, Boise State responses were similar to responses from students at other urban institutions. However, Boise State freshmen thought the institution had less impact on the development of their computing and information technology skills compared to other urban institutions. The fact that this was a real difference is confirmed by the finding in another recent report of NSSE results where Boise State freshmen were less likely to use an electronic medium to complete an assignment or to use e-mail to communicate with instructors compared to students at other urban institutions (see RR 2003-02). Since no differences occurred at the senior level, it appears that Boise State students are not developing their computing and information technology skills as quickly as students at other urban institutions, but that they do eventually develop skills in this area.

The other area where Boise State had less impact compared to other urban institutions was in developing an understanding of people from other racial and ethnic backgrounds. Ratings in this area were lower for both freshmen and seniors. Again, this finding is confirmed by other data from the survey. In particular, both freshmen and seniors were less likely to hold serious conversations with those of a different race or ethnicity compared to students enrolled at other urban institutions (see *Active Learning In and Out of the Classroom*, RR 2003-02). Also,

students gave Boise State lower ratings compared to other urban institutions in encouraging contact among students of other economic, social, racial, and ethnic backgrounds (see RR 2003-01). How much students thought Boise State helped them to thrive socially also depended in part on their developing an understanding of people from different racial and ethnic backgrounds (see RR 2003-01). Surely the first step in understanding people who come from other backgrounds and races is to converse with them. Thus, it is not surprising that students also rated Boise State's impact lower in this area.

Factor analysis indicated that the 15 outcome areas included on the survey could be grouped into an academic growth factor and a personal growth factor. Students who thought the institution had helped them grow more academically also tended to:

- Have more out-of-class group assignments
- Take more courses that emphasized analysis and application of theories to practical problems or new situations
- Take more challenging exams (that were valid indicators of their performance)
- Receive quality advising
- Have higher quality relationships with faculty
- Participate in fewer community-based projects as part of a course
- Have reached senior status

These findings indicate that moving beyond memorization and recall to analysis and application aids student learning, a finding echoed in the analysis of the 2000 NSSE data on growth (see RR 2001-02). Analysis and application skills are further bolstered by group projects. This higher-order thinking is also then carried forward to the examinations that students take to show the learning that has taken place. Seniors are more likely to experience this form of classroom instruction compared to first-year students.

The finding of fewer community-based projects being related to more academic growth is puzzling and out of step with the other "active-learning" findings. Since the use of community-based projects in the classroom is still fairly unusual (about 80% of freshmen and 60% of seniors never had done it) and more common in some majors than others, a reanalysis was undertaken including groups of majors to see if that changed the findings. However, no effect for major was found, and the findings remained the same. It should be noted that in a prior study of institutional climate (see RR 2003-01), students who thought the institution had done more to help them thrive socially also had participated in more community-based projects as part of their coursework. In addition, participation in more community-based projects related to greater personal growth, according to an analysis of the 2000 NSSE survey data (see RR 2001-02). Perhaps the social aspect of community-based projects is currently greater than the academic aspects.

Students who had higher ratings of Boise State's impact on their personal growth also had more classes that included diverse perspectives in class discussions or assignments and/or that emphasized making judgments about the value of information, arguments, or methods. Perhaps these discussions and assignments helped students look at themselves and their values in ways

that related to their personal growth. Whatever the reason, this relationship was also found in the 2000 analysis (see RR 2001-02).

Students who had better relationships with administrative offices and personnel also had higher personal growth ratings. This relationship is not as intuitively obvious as the prior one. Perhaps the key is to first think about *why* their relationships might be better. Perhaps these students were involved in more activities and therefore working more closely with student affairs personnel. Perhaps these students were working on-campus and therefore had become more familiar with administrative personnel. Perhaps they had a financial or registration problem that the appropriate office helped to resolve. We can only speculate about what is behind this relationship.

These findings confirm that the university has a significant impact on student learning, both academically and personally. This impact is generally greater for seniors compared to first-year students. Much of this impact is due to faculty and their choice of the assignments, discussions, tests, and group projects that are part of the class. However, relationships outside of class are also critical to student development.

Table 1. Summary Statistics for First-year Students and Seniors on Growth Items

To what extent has your experience at this institution contributed to:	Class rank					
	Freshman/First-year student			Senior		
	Count	Mean	Std Deviation	Count	Mean	Std Deviation
Acquiring a broad general education	122	2.81	.83	183	2.99	.82
Acquiring job or work-related knowledge and skills*	122	2.35	.97	183	2.83	.91
Writing clearly and effectively	122	2.78	.91	183	2.89	.87
Speaking clearly and effectively	122	2.56	.89	183	2.61	.92
Thinking critically and analytically*	122	2.89	.83	183	3.12	.72
Analyzing quantitative problems*	122	2.35	.89	183	2.76	.88
Using computing and information technology*	122	2.17	.97	183	2.85	.93
Working effectively with others*	122	2.43	.88	183	2.95	.80
Voting in local, state, or national elections*	122	1.50	.82	183	1.72	.96
Learning effectively on your own*	122	2.66	.92	183	2.90	.91
Understanding yourself	122	2.56	1.02	183	2.62	1.00
Understanding people of other racial and ethnic backgrounds	122	2.24	1.04	183	2.26	.96
Solving complex real-world problems*	122	2.15	.91	183	2.40	.83
Developing a personal code of values and ethics	122	2.13	1.07	183	2.23	1.05
(Your) contributing to the welfare of your community*	122	1.70	.81	183	2.10	.96

*Statistically significant difference between freshmen and seniors using an alpha level of .05

Table 2. Frequency of Responses for Growth Items

Item:	Class rank				
	Freshman/First-year student		Senior		
	Count	Column %	Count	Column %	
Contributed to: Acquiring a broad general education	1 Very little	6	5.0%	7	3.8%
	2 Some	37	30.6%	40	21.9%
	3 Quite a bit	52	43.0%	83	45.4%
	4 Very much	26	21.5%	53	29.0%
Contributed to: Acquiring job or work-related knowledge and skills	1 Very little	24	19.7%	15	8.2%
	2 Some	50	41.0%	49	26.8%
	3 Quite a bit	29	23.8%	72	39.3%
	4 Very much	19	15.6%	47	25.7%
Contributed to: Writing clearly and effectively	1 Very little	9	7.4%	12	6.6%
	2 Some	39	32.2%	44	24.0%
	3 Quite a bit	43	35.5%	80	43.7%
	4 Very much	30	24.8%	47	25.7%
Contributed to: Speaking clearly and effectively	1 Very little	14	11.6%	23	12.6%
	2 Some	44	36.4%	58	31.7%
	3 Quite a bit	44	36.4%	69	37.7%
	4 Very much	19	15.7%	33	18.0%
Contributed to: Thinking critically and analytically	1 Very little	5	4.1%	1	.5%
	2 Some	34	27.9%	35	19.1%
	3 Quite a bit	52	42.6%	88	48.1%
	4 Very much	31	25.4%	59	32.2%
Contributed to: Analyzing quantitative problems	1 Very little	20	16.7%	14	7.7%
	2 Some	52	43.3%	55	30.4%
	3 Quite a bit	34	28.3%	73	40.3%
	4 Very much	14	11.7%	39	21.5%
Contributed to: Using computing and information technology	1 Very little	35	28.7%	15	8.2%
	2 Some	44	36.1%	49	26.8%
	3 Quite a bit	30	24.6%	67	36.6%
	4 Very much	13	10.7%	52	28.4%
Contributed to: Working effectively with others	1 Very little	16	13.1%	4	2.2%
	2 Some	53	43.4%	52	28.4%
	3 Quite a bit	37	30.3%	77	42.1%
	4 Very much	16	13.1%	50	27.3%
Contributed to: Voting in local, state, or national elections	1 Very little	80	66.1%	103	56.3%
	2 Some	26	21.5%	42	23.0%
	3 Quite a bit	10	8.3%	24	13.1%
	4 Very much	5	4.1%	14	7.7%
Contributed to: Learning effectively on your own	1 Very little	11	9.0%	15	8.2%
	2 Some	46	37.7%	41	22.4%
	3 Quite a bit	39	32.0%	75	41.0%
	4 Very much	26	21.3%	52	28.4%

Item:		Class rank			
		Freshman/First-year student		Senior	
		Count	Column %	Count	Column %
Contributed to: Understanding yourself	1 Very little	20	16.5%	29	15.9%
	2 Some	40	33.1%	51	28.0%
	3 Quite a bit	34	28.1%	62	34.1%
	4 Very much	27	22.3%	40	22.0%
Contributed to: Understanding people of other racial and ethnic backgrounds	1 Very little	37	30.6%	44	24.0%
	2 Some	35	28.9%	71	38.8%
	3 Quite a bit	32	26.4%	45	24.6%
	4 Very much	17	14.0%	23	12.6%
Contributed to: Solving complex real-world problems	1 Very little	30	24.6%	25	13.7%
	2 Some	56	45.9%	75	41.2%
	3 Quite a bit	24	19.7%	66	36.3%
	4 Very much	12	9.8%	16	8.8%
Contributed to: Developing a personal code of values and ethics	1 Very little	45	37.5%	57	31.1%
	2 Some	31	25.8%	54	29.5%
	3 Quite a bit	28	23.3%	45	24.6%
	4 Very much	16	13.3%	27	14.8%
Contributed to: (Your) contributing to the welfare of your community	1 Very little	59	48.4%	59	32.2%
	2 Some	46	37.7%	64	35.0%
	3 Quite a bit	12	9.8%	43	23.5%
	4 Very much	5	4.1%	17	9.3%

Table 3. Rotated Factor Matrix for Growth Items²

Extent that experiences at Boise State contributed to:	Academic Growth Factor Loadings	Personal Growth Factor Loadings
Thinking critically and analytically	.746	
Writing clearly and effectively	.677	
Analyzing quantitative problems	.664	
Speaking clearly and effectively	.653	
Acquiring job or work-related knowledge and skills	.544	
Working effectively with others	.508	.463
Using computing and information technology	.504	
Acquiring a broad general education	.470	
Solving complex real-world problems	.465	.541
Developing a personal code of values and ethics		.759
Understanding self		.675
Understanding people of other racial and ethnic backgrounds		.668
Contributing to the welfare of the community		.652
Voting in local, state, or national elections		.461
Learning effectively on your own		.459
Percent of variance explained	23.6	21.7

² Only factor loadings of .40 or greater are displayed. Based on Maximum Likelihood extraction method and varimax rotation.

Table 4. Prediction of Academic Growth Score³

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Significance
	B	Std. Error	Beta		
Constant	-3.298	.243		-13.589	.000
Worked with classmates outside of class to prepare class assignments	.194	.050	.197	3.848	.000
Participated in a community-based project as part of a regular course	-.134	.056	-.111	-2.392	.017
Coursework emphasized analyzing the basic elements of an idea, experience, or theory	.197	.063	.171	3.130	.002
Coursework emphasized applying theories or concepts to practical problems or in new situations	.217	.053	.221	4.078	.000
Extent to which exams during the year challenge you to do your best work	.135	.034	.192	3.991	.000
Overall, how would you evaluate the quality of academic advising you have received at your institution	.123	.046	.131	2.644	.009
Quality of relationships with faculty	.100	.032	.160	3.083	.002
Class rank	.083	.030	.135	2.743	.006

Table 5. Prediction of Personal Growth⁴

Model	Unstandardized Coefficients		Standardized Coefficients	t-value	Significance
	B	Std. Error	Beta		
Constant	-1.897	.189		-10.023	.000
Included diverse perspectives (different races, religions, genders, political beliefs) in class discussions or assignments	.330	.050	.350	6.605	.000
Quality of relationships with administrative personnel and offices	.121	.030	.208	4.079	.000
Coursework emphasized making judgments about the value of information, arguments, or methods	.198	.051	.208	3.881	.000

³ R²=.454, F=29.477, df=8,284, significance=.000

⁴ R²=.278, F=36.795, df=3,287, significance=.000

Table 6. Summary Statistics for Rating Importance of Outcomes

	Class rank					
	Freshman/First-year student			Senior		
	Mean	Std Deviation	Valid N	Mean	Std Deviation	Valid N
As an outcome of your college education, how important to you is acquiring a broad general education?	3.28	.77	85	3.19	.79	134
As an outcome of your college education, how important to you is acquiring job or work-related knowledge and skills?	3.59	.81	85	3.68	.60	134
As an outcome of your college education, how important to you is writing clearly and effectively?	3.52	.67	85	3.66	.61	133
As an outcome of your college education, how important to you is thinking critically and analytically?	3.68	.56	85	3.74	.53	133
As an outcome of your college education, how important to you is developing computer and information technology skills?*	3.25	.83	85	3.46	.72	133
As an outcome of your college education, how important to you is working effectively with others?	3.51	.73	85	3.50	.68	134
As an outcome of your college education, how important to you is your ability to make informed decisions as a citizen?	3.25	.86	85	3.25	.81	134
As an outcome of your college education, how important to you is understanding people of other racial/ethnic backgrounds?	3.06	.90	85	3.22	.89	132

*Statistically significant difference between first-year students and seniors using an alpha level of .05

