

DEMONSTRATING GROWTH OF A STUDENT ENGAGEMENT CULTURE: A MULTIVARIATE APPROACH TO ASSESSING INSTITUTIONAL GOALS AT A PUBLIC UNIVERSITY

Abstract

Using data from a self-report survey of juniors and seniors, we document statistically significant growth of a student engagement culture on our campus after a three year period following implementation of an institutional Quality Enhancement Plan. Twenty-three of 45 individual variables, scores on four of 10 multivariate engagement factors, and four of four QEP outcome variables showed significant increases over the course of the study. Observed changes reflect institutional priorities and intentionality in advancing discrete learning outcomes related to student engagement, including greater awareness of key societal issues, enhanced capacity to apply their knowledge and skills in addressing societal concerns, increased appreciation of diverse perspectives, and a greater sense of social responsibility. Our approach accommodates alternative, interrelated approaches to addressing common objectives to better reflect the cumulative, multifactorial nature of student learning, and provides a robust, powerful model for institutional-level student learning assessment.

Introduction

Assessing the impact of pedagogical initiatives on students' knowledge, skills, and perspectives is like trying to break open a piñata: we celebrate each attempt, even though most make little discernable progress, yet never really know what combination of factors ultimately contribute to the final, desired outcome. As higher education becomes increasingly outcomes- and accountability-driven, it is essential that we find ways to document added value in students' educational experiences. Recent national movements towards student engagement (Kuh, 2001a), civic and political engagement (Colby, Beaumont, Ehrlich & Corngold, 2007; Colby, Ehrlich, Beaumont & Stephens, 2003; Mehaffy, 2005), personal and social responsibility (Colby & Sullivan, 2009; Hersch & Schneider, 2005), and critical thinking (Paul & Elder, 2006), among others, have forced faculty and administrators to confront the issue of assessing higher-order learning outcomes across the curriculum and co-curriculum.

Most assessments to date have fallen into one of three categories. First, process indicators such as the number of learning opportunities available and the extent to which students have participated in such activities have been used to demonstrate increased intentionality by individuals and institutions in promoting targeted outcomes; the National Survey of

Student Engagement (NSSE) represents the most comprehensive example of this type, and relies on studies which show correlations between educational practice and student achievement (e.g., Astin, 1991; Carini, Kuh & Klein, 2006; Chickering & Gamson, 1987; Kuh, 2001a, 2001b). Second, pretest-posttest approaches have been used to document the extent of positive changes in learning and/or attitudes within the context of individual courses and experiences (e.g., Huerta, Jorgensen & Jozwiak, 2006); while potentially valuable in demonstrating short-term gains using an hypothesis-testing approach, such assessments cannot reflect cumulative enhancement or even regression of learning gains over time. Finally, portfolios and other reflective assessments are becoming more common as means of assessing students' individual growth and capacity (e.g., Donnelly-Smith, 2008); these approaches offer the richest illustration of the student learning experience, but may be difficult to translate into quantitative measures suitable for institutional assessment.

A few studies have employed a multivariate statistical approach to quantitative assessment. Tan (1992) used factor analysis to derive multidimensional predictors of academic quality based on data from sociology departments at 54 U.S. research universities. This study identified factors related to faculty research productivity, departmental size, and student success as contributors to indicators of departmental excellence. Trigwell, Prosser & Waterhouse (1999) used factor and cluster analyses to describe relationships between teachers' and students' approaches to learning in 48 first-year classes in Australian universities; they found that learning strategies adopted by students are associated with professors' approaches to teaching. Kuh (2001b) used principal components analysis and factor rotation to examine the validity and psychometric properties of the NSSE instrument, identifying sets of student engagement constructs consistent with those previously linked to effective educational practice. These studies have exploited statistical correlations among individual variables to derive a small number of composite factors and/or clusters that explained a majority of the total variation and, in some cases, subsequently test for significant differences among groups in multivariate space.

The statistical power and flexibility inherent in multivariate approaches complement a number of models of cognitive development and learning. Perry's (1970) model of intellectual and ethical development described students' progression through a series of developmental stages; in addition, he identified several ways in which students may delay, retreat or escape from this intellectual progression. Kolb (1984) outlined an experimental learning cycle model, in which students' learning and cognitive growth matures through repeated cycles of direct experience, reflection, conceptualization and subsequent application. Baxter-Magolda's (1992) epistemological reflection model emphasized gender-based differences in patterns of reasoning and learning that emerge over time. A report by the American Association of Colleges and Universities (AAC&U) (2002) ad-

vocated cultivation of intentional learners, using many of the elements described by Kolb (1984), and stressed the need for locally-devised, authentic assessments that emphasize evidence of higher-level learning.

Evident in these and other models of intellectual development is the recognition that student learning is cumulative and multifactorial; moreover, they imply that the impact of individual experiences may be limited or at least difficult to assess if (a) students are not developmentally ready to assimilate the experience, (b) the experience is viewed outside a progressive context, or (c) the experience or assessment thereof does not align with students' particular ways of knowing. By integrating a large number of information-rich variables into a comprehensive assessment of students' total university experience, it is possible to reflect the cumulative nature of learning while accommodating potentially confounding effects of cognitive stage, readiness to learn, and delivery modality.

Here we utilize a multivariate approach to describe and quantify growth of a student engagement culture on our campus. Using data from a self-report survey of upperclass students, we address the following questions: (a) What are the discrete factors of engagement that characterize the university experience at our institution; (b) To what extent have students' perceptions of their engagement experiences changed over time; and (c) How are the observed patterns of change related to institutional priorities? We discuss our findings with respect to the need for institution-level assessment of learning and the student experience that is consistent, quantitative and comprehensive.

Methods

Institutional Context

Western Kentucky University (WKU) is a comprehensive public university with a total enrollment just above 20,000, of which approximately 80 % are undergraduates. WKU is accredited by the Southern Association of Colleges and Schools (SACS), and last underwent reaffirmation of accreditation in 2005. As part of the reaffirmation process, SACS institutions are charged with developing and implementing a Quality Enhancement Plan (QEP) that reflects key issues arising from ongoing institutional assessment processes and engages a broad base of institutional constituencies in addressing one or more components of the university's student learning mission (Commission on Colleges, 2008). In particular, QEPs are expected to identify discrete student learning outcomes, action steps, institutional resources and assessments tied to an overarching student learning theme. WKU's plan, *Engaging Students for Success in a Global Society*, employs a student engagement approach to enhancing students' (a) capacity to apply their knowledge and training to address societal issues; (b) appreciation for the diversity of peoples, ideas and cultures; and (c) awareness of their op-

portunities and responsibilities as citizens in a global society (WKU, 2005). Implementation of the plan began in Fall 2005.

Survey Instrument

Since 2001, WKU has utilized the WKU Student Engagement Survey (WKUSES) as a means of assessing various aspects of students' WKU Experience, particularly curricular and co-curricular opportunities for engaged learning; a number of the items on this survey are similar to those included in the NSSE survey. WKUSES is administered each spring to juniors and seniors through students' major departments; students completing associate's degree programs also have the opportunity to complete the survey. There exist a core set of university-wide items (see Appendix) that focus on the extent to which students have been involved in various types of experiential learning opportunities, the degree to which aspects of their coursework have contributed to essential knowledge, skills and perspectives, and the academic relationships among peers and faculty mentors. The number of respondents is typically 2500–3000 per year. Participation is voluntary and anonymous. Colleges and departments have the option of including additional questions to be asked of their students. Traditionally, item-by-item results of the survey have been distributed to colleges and departments for their formative use.

For this study, we utilized a set of 45 university core items (input variables) common through the 2005–2008 administrations. Each item had a 4–6 point response scale; questions used in the analysis, and accompanying summary statistics, appear in Table 1.

Table 1

WKUSES Variables, Response Scales and Summary Statistics

Input variables	QEP	Scale	N	2005 Mean±SE
Thinking about the advising you received, rate the following:				
Overall quality of advisor		4	2639	2.909±0.018
Availability of advisor		4	2628	2.963±0.017
Advisor's help in developing your schedule each semester		4	2584	2.837±0.019
Advisor's help with career planning		4	2435	2.429±0.021
Advisor's knowledge of degree requirements		4	2623	3.229±0.017
To what extent has course work in your major contributed to your:				
Acquiring job/work-related knowledge?		5	2568	3.727±0.019
Writing clearly and effectively?		5	2657	3.578±0.019
Speaking clearly and effectively?		5	2656	3.586±0.019
Thinking critically and analytically?		5	2656	3.994±0.017

(continued)

Table 1 (*continued*)

Input variables	QEP	Scale	N	2005 Mean \pm SE
Applying theories/concepts to practical problems/new situations?		5	2655	3.891 \pm 0.017
Working effectively with others?	Y	5	2664	3.887 \pm 0.018
Enthusiasm towards this discipline?		5	2644	3.876 \pm 0.019
Use of the library?		5	2640	2.912 \pm 0.022
Use of computer technology?		5	2661	3.785 \pm 0.020
To what extent have general education courses contributed to your:				
Acquiring a broad general education?	Y	5	2650	3.382 \pm 0.019
Writing clearly and effectively?		5	2648	3.329 \pm 0.018
Speaking clearly and effectively?		5	2642	3.282 \pm 0.019
Thinking critically and analytically?		5	2643	3.284 \pm 0.019
Understanding diverse cultures?	Y	5	2640	3.258 \pm 0.020
To what extent did University Experience contribute to:				
Your college experience?		5	2099	1.989 \pm 0.024
Involving you in campus and community?	Y	5	2102	1.916 \pm 0.023
As a student, how often have you:				
Discussed career plans with a faculty member?		5	2684	2.956 \pm 0.020
Been challenged to meet the expectations of faculty?		5	2674	3.563 \pm 0.019
Discussed ideas from your classes with others outside class?	Y	5	2674	3.735 \pm 0.019
Participated in practicum courses, internships, co-ops, clinical assignments or field experiences?	Y	5	2650	2.885 \pm 0.027
Interacted with people from different backgrounds or cultures?	Y	5	2656	3.457 \pm 0.020
Performed community service/volunteer activities?	Y	5	2658	2.721 \pm 0.024
Participated in research projects with a faculty member?	Y	5	2651	1.780 \pm 0.022
Presented a project or paper with a faculty member?	Y	5	2649	1.648 \pm 0.021
Attended a play, concert, art exhibit, lecture, or cultural event?	Y	5	2670	2.923 \pm 0.021
Participated in meetings/activities of a professional organization?	Y	5	2656	2.679 \pm 0.025
Participated in study abroad or other international activities?	Y	5	2648	1.474 \pm 0.019
Participated in leadership training or had a leadership role?	Y	5	2653	2.298 \pm 0.027
Attended a university athletic event?		5	2671	2.936 \pm 0.027
Worked with a faculty member on a project outside of class?	Y	5	2669	1.772 \pm 0.022
Been contacted by your advisor regarding your degree program?		5	2671	2.028 \pm 0.021

(*continued*)

Table 1 (*continued*)

Input variables	QEP	Scale	N	2005 Mean \pm SE
While at the university, on average, how many hours per week have you spent working in a job?		8	2667	4.880 \pm 0.044
How many hours per week do you spend doing volunteer work?	Y	5	2670	1.949 \pm 0.022
How many courses in your major included knowledge or activities that will help you become a contributing citizen?	Y	5	2650	3.217 \pm 0.020
How many of your non-major courses included knowledge or activities that will help you become a contributing citizen?	Y	5	2638	2.834 \pm 0.019
How many of the courses in your major required community involvement, volunteerism, or other out-of-class learning activities?	Y	5	2664	2.534 \pm 0.023
How many of your non-major courses required community involvement, volunteerism, or other out-of-class learning activities?	Y	5	2651	2.143 \pm 0.018
During the past year, how often have you participated in a community-based project as part of your homework?	Y	4	2660	1.566 \pm 0.015
To what extent has your coursework:				
Contributed to your voting in local, state, or national elections?	Y	4	2660	1632 \pm 0.017
Affected your contribution to the welfare of your community?	Y	4	2655	1.611 \pm 0.015
QEP outcome variables		Scale ¹	N	2006 Mean \pm SE
To what extent do you feel you:				
Have an understanding of the major issues facing society today?		4	2401	2.811 \pm 0.014
Can apply what you have learned in your major to resolving problems or concerns in society?		4	2394	2.794 \pm 0.015
Have the experience needed to appreciate both sides of an issue?		4	2386	3.086 \pm 0.015
Are aware of your responsibilities as a citizen, living and working in a global society?		4	2398	2.950 \pm 0.015

Note. Values presented for input variables are derived from the Spring 2005 administration; these 45 variables represent those used in the factor analysis. Values for QEP outcome variables are derived from the Spring 2006 administration (the first year these items were included). Input variables related to QEP priorities are indicated. Response scales for each item are as follows (variables are denoted as Input 1–45 and Outcome 1–4, based on the order in which they appear in the table):

Input 1–5: 1 = Poor, 2 = Fair, 3 = Good, 4 = Excellent

Input 6–21: 1 = Not at all, 2 = Very little, 3 = Some, 4 = Quite a bit, 5 = Very much

Input 22–32: 1 = Never, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very often

- Input 33: 1 = 0, 2 = 1–5, 3 = 6–10, 4 = 11–15, 5 = 16–20, 6 = 21–25, 7 = 26–30, 8 = 30+
Input 34: 1 = 0, 2 = 1–2, 3 = 3–4, 4 = 5–9, 5 = 10+
Input 35–38: 1 = Never, 2 = Rarely, 3 = Occasionally, 4 = Often, 5 = Very often
Input 39–42: 1 = None, 2 = Very few, 3 = Some, 4 = Quite a few, 5 = Almost all
Input 43: 1 = Never, 2 = Sometimes, 3 = Often, 4 = Very often
Input 44–45: 1 = Very little, 2 = Some, 3 = Quite a bit, 4 = Very much
Outcome 1–4: 1 = No extent, 2 = Little extent, 3 = Some extent, 4 = Great extent

Values of skewness and kurtosis calculated for each item generally were between -1.00 and +1.00, a range typically regarded as evidence of normality (Kuh, 2001b). Items showing higher degrees of skewness (all positive) tended to be those associated with the extent of involvement in out-of-class or optional experiential activities, including independent research, study abroad, service learning, and volunteerism (Table 1); such patterns are also to be expected (Kuh, 2001b).

Beginning in 2006, four items were added to the WKUSES survey. These questions were designed to provide information on the extent to which students felt their overall university experience had contributed to outcomes specifically targeted in our QEP; Table 1 provides definitions and summary statistics for these QEP outcome variables.

Data Analysis

All statistical analyses were conducted using SYSTAT 11 for Windows (SYSTAT Software, 2004). The Spring 2005 administration of WKUSES was taken as a baseline year, as it pre-dated implementation of our QEP. Spring 2005 data for the 45 input variables were subjected to principal components analysis (PCA) of the correlation matrix derived from the original data. Principal components analysis was chosen over common factor analysis, as ordinations derived from the former incorporate both communality as well as uniqueness (Tan, 1992); moreover, the principal components algorithm does not limit the number of factors that can be extracted from the data. The correlation matrix results in each original variable contributing an equal amount of total variation to the data set; this ensures that the solution is not dominated by those variables with the highest variance, as could occur if the variance-covariance matrix were used.

Resulting factors were orthogonally rotated using the Varimax procedure. Varimax tends to spread the percent of variance explained more evenly across factors, while also polarizing the loadings of individual variables on each factor (resulting in a few variables with high loadings on a given factor, and the remainder with loadings near zero); this simplifies interpretation of each factor. Component loadings of individual variables on rotated factors were used to categorize the derived axes.

The 2005 raw data were projected onto the space defined by the rotated factors to generate a baseline data set of scores for comparison over time. By definition, mean factor scores for all axes in 2005 were 0.00.

Data from 2006, 2007, and 2008 administrations of WKUSES were similarly projected onto the space defined by the 2005 factors.

Differences in 2006, 2007 and 2008 mean values for both individual input variables and factor scores were tested for significant differences relative to 2005 baseline values using ANOVA, with significance based on Bonferroni-adjusted criteria. QEP outcome variables were also tested for significant differences among years (2006 through 2008) using ANOVA; here all pairwise comparisons were tested for significance using Tukey's HSD multiple comparison test.

Results

Identification of Factors

The principal component analysis generated ten orthogonal factors with eigenvalues greater than 1.0; these were taken to be factors containing significant information. These 10 principal components accounted for 61.34% of the total variation in the data set. The first principal component accounted for 21.39% of the total variation; the remaining nine factors accounted for between 8.15 and 2.35% of the variation.

The rotated factors also accounted for 61.34% of the total variation; however, no single factor accounted for more than 10.06 % of the total variation. The percent of variance explained by each rotated factor is given in Table 2, sorted by percent of total variance explained. For each rotated factor (with one exception—see Factor X), loadings of important variables all had the same sign, indicating that students responding positively for one tended to do so for all.

Table 2

Summary of 10 Rotated Factors Derived from Analysis of the 2005 WKUSES Data

Factor	% Variance	Contributing variables	Loadings	Factor classification
I	10.06	Major course impact on speaking skills	0.735	Major course meta-skills
		Major course impact on thinking skills	0.726	
		Major course impact on writing skills	0.720	
		Major course impact on applying concepts	0.706	
		Major course impact on enthusiasm for discipline	0.672	
		Major course impact on ability to work with others	0.649	

(continued)

Table 2 (*continued*)

Factor	% Variance	Contributing variables	Loadings	Factor classification
II	8.52	General education impact on writing skills	0.847	General education (QEP)
		General education impact on thinking skills	0.844	
		General education impact on speaking skills	0.840	
		General education contribution to broad education	0.790	
		Contribution to understanding diverse cultures	0.747	
III	8.38	Overall quality of advising	0.867	Advising
		Advisor's helpfulness in developing schedules	0.866	
		Advisor's helpfulness with career planning	0.786	
		Availability of advisor	0.782	
		Advisor's knowledge of degree requirements	0.764	
IV	6.94	Presentation of project or paper with faculty	0.802	Experiential activities (QEP)
		Participation in research projects with faculty	0.796	
		Work with faculty on a project outside of class	0.731	
		Participation in study abroad/ internationalization	0.658	
V	6.19	Participation in community service/ volunteerism	0.758	Community involvement (QEP)
		Hours per week doing volunteer work	0.660	
		Participation in activities of professional groups	0.589	
		Participation in leadership training programs	0.563	
VI	5.52	Discussion of class ideas outside of class	0.722	Academic climate
		Extent of challenge by faculty expectations	0.699	
		Discussion of career plans with faculty	0.612	
VII	4.90	Community involvement in major courses	0.701	Curricular citizenship (QEP)
		Community involvement in non-major courses	0.660	
		Major course contribution to citizenship potential	0.615	
VIII	4.02	Course role in college experience	0.907	University Experience
		Course role in campus/community involvement	0.890	
IX	3.75	Coursework impact on voting	0.857	Civic behavior (QEP)
		Coursework impact on civic commitment	0.714	

(*continued*)

Table 2 (*continued*)

Factor	% Variance	Contributing variables	Loadings	Factor classification
X	3.03	Attendance at university athletic events Number of hours worked per week	0.628 -0.529	Cultural engagement

Note. Factors are sorted by the percent of variance explained. Contributing variables are defined as those input variables showing high loadings (positive or negative) on a given factor. Factors directly related to QEP priorities are indicated in the factor classification.

Supplementary analyses supported the stability and reliability of the derived factors. Data from the 2003 and 2004 administrations generated nearly identical eigenvalues and patterns of factor loadings when subjected to equivalent analyses (McElroy, 2006). Reliability studies (J. Bruni, personal communication, 2006) indicated that factors were robust to removal of individual variables from the analysis. Patterns of loadings (Table 2) indicated that sets of related items tended to load on the same axes, suggesting that survey questions were being appropriately interpreted by students and measuring what they were intended to measure.

The first rotated factor (Factor I) explained 10.06% of the total variation. Variables showing high loadings on this factor were those that focused on the contribution of major program coursework to development of students' speaking, critical thinking, and writing skills, as well as their ability to apply concepts and theories, feel enthusiastic towards their discipline and work effectively with others. Factor I was thus categorized as a Major Program Meta-Skills axis.

Factor II explained 8.52% of the total variation. Factor II was classified as a General Education axis. Variables addressing the value of general education in promoting writing, critical thinking, and speaking skills, as well as development of a broad education and understanding of diverse cultures, all had high loadings on this axis.

Factor III explained 8.38% of the total variation and represented an Advising axis. Variables with high loadings included questions reflecting the overall quality of advising, advisors' helpfulness in developing the academic schedule and career plans, and advisors' availability and knowledge of degree requirements.

Factor IV accounted for 6.94% of the total variation. Variables reflecting the students' presentation of research results done under the direction of a faculty member, the extent of students' participation in research or other projects with faculty, as well as their involvement in study abroad or other international activities loaded heavily on this axis. Factor IV could thus be broadly classified as an Experiential Activities axis.

Factor V accounted for 6.19% of the total variation. Factor V was categorized as a Community Involvement axis, reflecting the extent of stu-

dents' participation in community service or volunteerism activities. To a lesser extent, this axis also reflected the extent of students' involvement in meetings of a professional organization and leadership training programs.

Factor VI explained 5.52% of the total variation. Variables showing high loadings on this axis included those focusing on the extent to which students discussed class ideas with others outside of class, felt challenged by faculty expectations, and discussed career plans with faculty. As such, Factor VI was broadly classified as an Academic Climate axis.

Factor VII accounted for 4.90% of the total variation. Variables with high loadings on this axis addressed the extent to which students' major and non-major courses required community involvement as an element of the course or advanced their capacity to be a contributing citizen. Factor VII was thus defined as a Curricular Citizenship axis.

Factor VIII explained 4.02% of the total variation. Factor VIII represented a University Experience axis. Variables important to this axis were those that reflected the extent to which WKU's course for first-semester students contributed to their college experience and their involvement with campus and community.

Factor IX explained 3.75% of the total variation. Variables with high loadings on this axis included those addressing the extent to which students' coursework affected their tendency to vote in elections and contribute to community welfare. While similar to Factor VII, this axis focused more strongly on the extent to which coursework impacted students' civic behavior, whereas Factor VII reflected the incorporation of socially-relevant topics or experiences into the curriculum. Thus, Factor IX was described as a Civic Behavior axis.

Factor X accounted for 3.03% of the total variation. Factor X was driven by responses to the question of how often students attended a university athletic event, and to a lesser extent other cultural events, contrasted against the number of hours per week students worked in a job. As such, Factor X constituted a Cultural Engagement axis. The fact that attendance items were opposite in sign from the hours worked variable indicates that the more hours a student worked per week, the less they tended to participate in the types of activities reflected on this axis.

Table 3
Significant Differences in Means Among WKUSES Input Variables and Factor Scores

Input variable	2005 Mean±SE	2006 Mean±SE	2007 Mean±SE	2008 Mean±SE
Major courses: Working with others	3.887±0.018	3.998±0.018*	3.961±0.019	3.967±0.018
Major courses: Disciplinary enthusiasm	3.876±0.019	4.008±0.018*	4.011±0.019*	4.020±0.018*
Major courses: Use of computer technology	3.785±0.020	3.912±0.021*	3.877±0.021	3.887±0.021*
Interaction: People of different cultures	3.457±0.020	3.646±0.020*	3.629±0.021*	3.628±0.020*
Participation in research with faculty	1.780±0.022	1.980±0.025*	2.020±0.025*	2.299±0.025*
Work with faculty on outside projects	1.772±0.022	1.939±0.025*	1.977±0.025*	2.022±0.025*
Contacted by advisor concerning program	2.028±0.024	2.282±0.024*	2.238±0.024*	2.441±0.023*
Major courses: Citizenship knowledge	3.217±0.020	3.351±0.021*	3.389±0.021*	3.487±0.020*
Challenged by expectations of faculty	3.563±0.019		3.758±0.020*	3.761±0.019*
Participation in practica/internships/etc.	2.885±0.027		3.198±0.028*	3.137±0.027*
Presentation of project with faculty	1.648±0.021		1.894±0.026*	1.986±0.025*
Participation in international experiences	1.474±0.019		1.637±0.024*	1.694±0.023*
Major courses: Community involvement	2.534±0.023		2.736±0.023*	2.750±0.022*
Participation in course community project	1.566±0.015		1.691±0.016*	1.681±0.015*
Coursework contribution to voting	1.632±0.017		1.526±0.016*	1.579±0.016
Overall quality of advising	2.909±0.018			3.018±0.018*
Advisor's help in developing schedule	2.837±0.019			2.959±0.019*
Advisor's help with career planning	2.429±0.021			2.595±0.021*
Major courses: Speaking skills	3.586±0.019			3.721±0.019*
Major course: Applying concepts/theories	3.891±0.017			4.016±0.017*

(continued)

Table 3 (continued)

Input variable	2005 Mean±SE	2006 Mean±SE	2007 Mean±SE	2008 Mean±SE
Discussion of career plans with faculty	2.956±0.020			3.136±0.021*
Discussion of ideas outside of class	3.735±0.019			3.906±0.018*
Community service/volunteerism	2.721±0.024			2.955±0.024*
Non-major courses: Citizenship knowledge	2.834±0.019			3.058±0.018*
Non-major course: Community involvement	2.143±0.018			2.379±0.020*
Factor	2005 Mean±SE	2006 Mean±SE	2007 Mean±SE	2008 Mean±SE
IV. Experiential activities	0.000±0.035	0.198±0.042*	0.278±0.041*	0.531±0.043*
VI. Academic climate	0.000±0.035	0.071±0.036*	0.186±0.037*	0.218±0.037*
VII. Curricular citizenship	0.000±0.034		0.203±0.036*	0.213±0.036*
IX. Civic behavior	0.000±0.034		-0.163±0.034*	-0.111±0.035
III. Advising	0.000±0.035			0.141±0.036*

Note. For input variables and factor scores, 2006, 2007 and 2008 means were tested for significant differences relative to the 2005 baseline, with significance based on Bonferroni-adjusted criteria. QEP outcome variables means in 2007 and 2008 were tested in the same manner against the 2006 baseline. Asterisks indicate means that were significantly different from baseline values. Values that represent significant decreases relative to 2005 are enclosed in boxes. Critical values for significance of input variables and factors are $p = .001$ and $p = .005$, respectively.

Change in Input Variables and Factor Scores Over Time

Eight of 45 input variables (17.8%) showed significant differences in means between 2005 and 2006, based on Bonferroni-adjusted criteria ($p < .001$). The number of significant comparisons rose to 13 out of 45 by 2007 (28.9%), and 23 out of 45 variables (51.1%) showed significant differences between 2005 and 2008. All statistical differences represented increases in mean values in 2006 relative to 2005. Overall, only 7 of 135 total pairwise comparisons showed decreases in means over time; of these, only two were statistically significant, both involving the same input variable. A summary of the statistical results is provided in Table 3.

Of the 45 input variables, 23 directly reflect QEP priorities (Table 1). Of these, five (21.7%) showed significant differences in 2006 relative to 2005; this number increased to 10 of 23 in 2007 (43.5%) and 14 of 22 (60.9%) in 2008 (Table 3).

Two of 10 factors (20%) showed significant differences in mean score between 2005 and 2006, based on Bonferroni-adjusted criteria ($p < .005$). The number of significant comparisons increased to four of 10 (40%) by 2007. In 2008, four of 10 factors (40 %) also showed significant differences relative to 2005 means; however, these differences involved a somewhat different set of factors (Table 3). Five of the 10 factors directly reflect QEP priorities (Table 2). Of these, 1 (20%) showed a significant difference in 2006 relative to 2005. This number increased to three of five (60%) by 2007; in 2008, only two of five (40%) were significant at the Bonferroni level, though a third approached significance ($p = .025$) (Table 3).

Change in QEP Outcome Variables Over Time

Means of each of the four QEP outcome variables increased significantly within one year, from 2006 to 2007 (Figure 1). All four variables showed additional increases in 2008; two of these (appreciating both sides of an issue, awareness of responsibilities as a global citizen) showed significant differences between 2007 and 2008. Associated z -scores indicated that these variable means increased 20.00 to 28.56 standard deviations from 2006 to 2008; by way of comparison, a change of approximately 2 standard deviation units would be considered statistically significant.

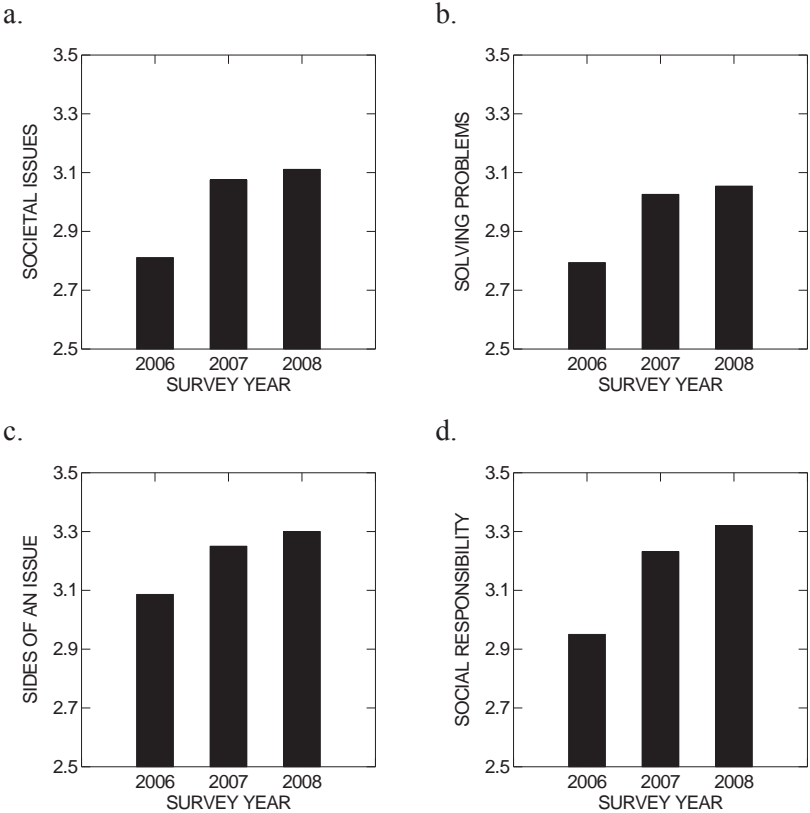


Figure 1. Significant increases in QEP outcome variables over time. Outcome variables asked respondents “To what extent do you feel you: a) have an understanding of the major issues facing society today; b) can apply what you have learned in your major to resolving problems or concerns in society; c) have the experience necessary to appreciate both sides of an issue; and d) are aware of your responsibilities as a citizen, living and working in a global society ?” Each of the four variables increased significantly relative to the baseline year of 2006 based on the results of Tukey’s HSD multiple comparison test; for variables shown in c) and d), all pairwise comparisons were significant. Between 2006 and 2008, outcome variables increased by a) 21.43, b) 20.00, c) 20.58, and d) 28.46 standard deviation units. Standard error bars were too small to be depicted on the graphs, but ranged from 0.012 to 0.015.

Discussion

Student Self-Reports Indicate Growth of a Student Engagement Culture on our Campus

Data from our institution indicate that student perceptions of their university experience have changed significantly over a short period of time. In most cases, these changes are consistent with growing areas of empha-

sis at the university, centered on student engagement. We also see evidence of ancillary benefits not specifically targeted by programmatic initiatives, as well as the impact of learning opportunities provided by world events.

In recent years, the university has identified engaged learning, community engagement and internationalization as key priorities within the academic mission. Involving students in independent research and scholarly activity has been a long-standing emphasis in a number of disciplines (particularly the natural and behavioral sciences, but now expressed more broadly). Responding to NSSE data, student satisfaction with advising has also been a target for improvement across our campus. It appears that students perceive the impact of these priorities and various curricular and co-curricular initiatives designed to address them. Our data indicate significant increases in mean scores for the Experiential Activities, Curricular Citizenship and Advising factors (Table 3); these factors are heavily influenced by input variables directly related to the priority areas identified above (Table 2).

QEP outcome variables showed the greatest positive change during the study period (Figure 1). These items asked students to contextualize their overall university experience in four dimensions consistent with our QEP targeted student learning outcomes. Students reported increasingly greater awareness of key societal issues, enhanced capacity to apply their knowledge and skills in addressing societal concerns, increased appreciation of diverse perspectives, and a greater sense of social responsibility and accountability. These enhanced outcomes are what we would hope to see, given that students also reported greater involvement in experiential and community-based activities as part of their university experience. While we do not establish a causal relationship among process and outcome variables, the fact that both sets are increasing in a correlated fashion is reassuring, and supports the oft-held view that integration of educational best practices should result in at least perceived gains in students' knowledge, skills and perspectives (Kuh, 2001a, 2001b; Mehaffy, 2005; Colby et al., 2003, 2007).

Interestingly, the Academic Climate factor also showed significant positive change during the course of our study. This factor was influenced by variables associated with the degree of interaction and expectations among students and faculty outside the classroom. Such cultural enhancement was neither anticipated nor specifically targeted; nevertheless, it may have resulted from changes in pedagogy instituted with more discrete outcomes in mind, such as community-based projects and/or independent scholarship.

Two variables in our analysis showed significant decreases in mean score over time. In 2006 and 2007, respondents felt that, on average, their coursework contributed less to their voting in elections than was felt by respondents in 2005. Similarly, the Civic Behavior factor, which was heavily influenced by this input variable, also decreased in 2006 and 2007

relative to 2005. These decreases were significant in 2007 relative to 2005. While such results initially suggest a declining emphasis on civic and political engagement in our courses, this is not necessarily the best way to view these data. It is important to note that the Spring 2005 administration followed close behind the 2004 presidential election, during which time many campuses (including our own) leveraged interest in the election as a teaching moment, devoting considerable attention to the political dimensions of issues across the disciplines.

Studies on student self-reports (Converse & Presser, 1989; Kuh, 2001b) have indicated that responses are more accurate when students are asked to reflect on relatively recent activities; by extension, this suggests that recent experiences contribute somewhat more to students' perceptions than do activities that occurred earlier (or did not occur as frequently) in their university careers. As a result, the 2005 baseline value may have been somewhat inflated, reflecting heavy emphasis on political aspects of course topics during the previous semester. The fact that mean values for these same items declined for two years before beginning to converge on 2005 values during the 2008 administration, as interest and media attention on the upcoming 2008 elections grew, supports this interpretation. We have observed the same cyclical pattern in NSSE data for our institution, and other campuses appear to have experienced a similar effect (J. Hayek, personal communication). As a result, it may be problematic to rely on short-term assessments of civic or political engagement, given that increased curricular focus tied to national elections may well drive responses in items such as these.

An Intentional Focus on Engagement Can Lead to Rapid Change

While most univariate and multivariate indicators showed positive trends throughout the course of our study, those related to our QEP focus tended to show the largest and most rapid gains. The proportion of QEP-related input variables and factors showing significant positive change increased faster than non-QEP aspects of engagement and the overall university experience. This suggests that an intentional focus on clearly articulated goals can be a powerful catalyst in promoting change in student learning indicators, even when the linkage between programming and assessment is indirect.

Our QEP has the stated goal of “engaging students with communities other than their own in purposeful learning activities that explicitly address their capacity and responsibility to contribute to society in positive ways” (Western Kentucky University, 2005, p. 3). This goal is tied to student learning outcomes that specifically seek to engage students as practitioners of their disciplines, develop their awareness of diverse perspectives, and cultivate their sense of social responsibility. While the goal and outcomes are clearly articulated, departments and programs have the freedom to address these outcomes in ways that are relevant to their stu-

dents and their disciplines. Our intended avoidance of a “one size fits all” approach to implementation means that there is not a simple articulation between implementation of curricular or co-curricular initiatives and the assessment of their impact on student learning at the institutional level. Nevertheless, our results show that this does not impede progress toward meeting institutional objectives; in fact, it may facilitate rapid change, by encouraging innovative programming that may be difficult to assess directly, especially if a common measure or rubric is expected to be applied.

The factors displaying significant change are not necessarily among those accounting for the highest proportions of total variation in the data set; the Major Course and General Education Meta-Skills factors alone represented nearly a third of the variation explained in our factor model, yet scores on these axes did not change significantly during the study (though the Major Courses Meta-Skills factor approached significance). Moreover, the input variables loading heavily on the Experiential Activities, Curricular Citizenship and Civic Behavior factors had, as might be expected (Kuh, 2001b), some of the lowest means seen in the survey (Table 1, Table 2). Nevertheless, these factors were among the most responsive.

Most would probably agree that commitment to enhancing students’ communication, critical thinking, and problem solving skills is a fundamental element of all universities’ academic missions, and at least as important as advancing engagement-related goals; certainly this is the case on our campus. Given this ubiquity and emphasis, why then do we not see equivalent change in the Meta-Skills factors as in more experientially-driven factors (even though some of the variables contributing to these factors are QEP-related)? We suggest again that clear articulation of goals and outcomes through our QEP process has provided the intentionality and focus necessary to effect demonstrable change along student engagement vectors; had our QEP focused directly on communication or critical thinking, we would expect to have seen significant change manifest in those dimensions to the partial exclusion of others.

A Multivariate Approach Provides a Powerful, Hypothesis-Driven Paradigm for Assessment

Our study presents a model for institution-level assessment of student learning goals and outcomes. It accommodates alternative, interrelated approaches to addressing common objectives and better reflects the cumulative, multifactorial nature of student learning. Moreover, it provides a statistically robust mechanism for assessing development of students’ higher-order knowledge, skills and perspectives.

Tan (1992) identified three limitations of a univariate approach to assessment, namely (a) the inability to apply a common yardstick across diverse programs, (b) the potential for short-term annual fluctuations in indicators that may mask underlying patterns, and (c) lack of information avail-

able about the interrelationships of variables and their impacts on targeted outcomes. We agree, and also suggest that highly structured, univariate indicators make *a priori* assumptions about relationships that constrain the resulting analysis and may preclude discovery of unanticipated correlations.

By collecting data on a large array of potential indicators, and subjecting these to a multivariate analysis, it is possible to test the viability of predicted relationships while retaining the potential to uncover novel interactions. For example, we would not have predicted emergence and strength of our Academic Climate factor. In addition, redundant indicators can be developed and included so as to accommodate diverse approaches to addressing the same targeted outcome without compromising statistical validity. Our Experiential Activities factor draws on correlated patterns of variance among indicators of independent scholarly research, faculty-directed projects and study abroad, all of which are means of engaging students with real-world situations outside the traditional classroom experience. Finally, the existence of redundancy minimizes the potential for chance fluctuations in one or two variables that might dominate the results of the analysis. The input variable assessing major programs' contribution to students' use of computer technology showed an inconsistent pattern of univariate statistical significance among years (Table 3); however, this variable did not load heavily on any factor, and so was not subject to overinterpretation.

Our emphasis on assessing students' overall university experience aligns well with cumulative, multifactorial models of learning (AAC&U, 2002; Baxter-Magolda, 1992; Kolb, 1984; Perry, 1970). It minimizes the possibility that the learning value of a single, well-designed experience may not be recognized by the student or otherwise demonstrable in the short-term. Moreover, by designing items which ask students to reflect on the extent to which certain types of related experiences contributed to their university experience, our approach targets accumulated learning gains and complementary modes of delivery/learning.

Implications for Practice

From an institutional perspective, it is preferable to have a limited number of inclusive measures of student learning and success; however, this is often difficult, given the diversity of programs, missions and priorities of component units. We have chosen to identify a set of overarching indicators that reflect different dimensions of our academic priorities, yet leave open the manner by which programs address targeted outcomes. In this way, the university can derive a comprehensive yet concise picture of its teaching and learning efficacy, without becoming bogged down in a level of detail that may cloud or impede strategic, formative thinking.

How might such data be used to further institutional goals and promote innovative thinking about and application of high-impact prac-

tices that advance academic quality? First, by tracking change among a finite set of multivariate indicators, an institution can more objectively and fairly assess the progress of units relative to one another; these trends can be used to identify best practices among a set of diverse strategies, guide allocation of resources, and reinforce a common understanding and commitment to advancing university priorities. Second, academic departments and programs can be free to pursue a range of initiatives (within or among units) that each contribute to the same underlying outcome, but in ways that make sense for their particular mission and students; pedagogy, not ease of assessment, can drive units' curricular and co-curricular decision-making. Finally, institutions can use multivariate, endpoint data to reinforce integrative, interdisciplinary, outcomes-based thinking that promotes linkages between Academic Affairs and Student Affairs or among academic disciplines and the community beyond the bounds of campus.

This is not to say that such an approach represents the end-all of demonstrating effectiveness in teaching and learning. Student self-reports represent but one dimension of the assessment process. It is important for academic programs to design student learning indicators that are more precise in defining causal relationships between program elements and learning; only in this way can departments maintain curricula that continue to be impactful, responsive and relevant. Nevertheless, at the institutional level it may well be sufficient to adopt a broader view and ask "Have our graduates achieved the essential learning outcomes we as an institution had hoped and set forth for them?"

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References

- American Association of Colleges and Universities (AAC&U). (2002). *Greater expectations: A new vision for learning as a nation goes to college*. Washington, DC: Author.
- Astin, A. W. (1991). *Assessment for excellence: The philosophy and practice of assessment and evaluation of higher education*. New York: American Council on Higher Education/MacMillan.

- Baxter-Magolda, M. (1992). *Knowing and reasoning in college: Gender-related patterns in students' intellectual development*. San Francisco: Jossey-Bass.
- Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, 47(1), 1–32. doi: 10.1007/s11162-005-8150-9
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin*, 39(7), 3–7.
- Colby, A., Beaumont, E., Ehrlich, T., & Corngold, J. (2007). *Educating for democracy: Preparing undergraduates for responsible political engagement*. San Francisco: Jossey-Bass.
- Colby, A., Ehrlich, T., Beaumont, E., & Stephens, J. (2003). *Educating citizens: Preparing America's undergraduates for lives of moral and civic responsibility*. San Francisco: Jossey-Bass.
- Colby, A., & Sullivan, W. M. (2009). Strengthening the foundations of students' excellence, integrity and social contribution. *Liberal Education*, 95(1), 22–29.
- Commission on Colleges, Southern Association of Colleges and Schools (SACS). (2008). *Principles of accreditation: Foundations for quality enhancement*. Atlanta, GA: Author. Retrieved from <http://www.sacscoc.org/pdf/2008PrinciplesofAccreditation.pdf>
- Converse, J. M., & Presser, S. (1989). *Survey questions: Handcrafting the standardized questionnaire*. Newbury Park, CA: Sage.
- Donnelly-Smith, L. (2008). Assessing learning, encouraging individuality through portfolios at Spelman College. *AAC&U News*, 73. Retrieved from http://aacu.org/aacu_news/archives/archive08.cfm
- Hersch, R. H., & Schneider, C. G. (2005). Fostering personal and social responsibility on college and university campuses. *Liberal Education*, 91(3), 6–13.
- Huerta, J. C., Jorgensen, D. J., & Jozwiak, J. (2006). Assessing the multiple dimensions of student civic engagement: A preliminary test of an ADP survey instrument. In J. L. Perry & S. G. Jones (Eds.), *Quick hits for educating citizens* (pp. 71–81). Bloomington, IN: Indiana University Press.
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- Kuh, G. D. (2001a). Assessing what really matters to student learning: Inside the National Survey of Student Engagement. *Change*, 33(3), 10–17.
- Kuh, G. D. (2001b). *The National Survey of Student Engagement: Conceptual framework and overview of psychometric properties*. Bloomington, IN: Indiana University Center for Postsecondary Research.
- McElroy, D. (2006). [Stability of factors extracted from a student self-report survey]. Unpublished raw data.

- Mehaffy, G. (2005, September/October). Reflections on a birthday: The American Democracy Project turns five. *Public Purpose*, 19–20.
- Paul, R., & Elder, L. (2006). *Critical thinking: Tools for taking charge of your learning and your life* (2nd ed.). Upper Saddle River, NJ: Pearson Prentice-Hall.
- Perry, W. (1970). *Focus of intellectual and ethical development in the college years: A scheme*. San Francisco: Jossey-Bass.
- SYSTAT Software. (2004). SYSTAT 11 [Computer software]. Richmond, CA: Author.
- Tan, D. L. (1992). A multivariate approach to the assessment of quality. *Research in Higher Education*, 33(2), 205–226.
- Trigwell, K., Prosser, M., & Waterhouse, F. (1999). Relations between teachers' approaches to teaching and students' approaches to learning. *Higher Education*, 37, 57–70.
- Western Kentucky University. (2005). *Engaging students for success in a global society: A Quality Enhancement Plan for Western Kentucky University*. Bowling Green, KY: Author. Retrieved from <http://www.wku.edu/qep>

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Appendix

■ ■ ■
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④ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
④ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Answer each of the survey questions in light of your experiences while attending WKU.

1. Thinking about the ADVISING you received in your major, rate the following:

	Poor	Fair	Good	Excellent	N/A Don't Know
■ a. overall quality of advising.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ b. availability of advisor.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ c. advisor's help with developing your schedule each semester.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ d. advisors's help with career planning.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ e. advisor's knowledge of degree requirements.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. To what extent has the COURSE WORK in your MAJOR contributed to your:

	Not at All	Very Little	Some	Quite a Bit	Very Much	N/A Don't Know
■ a. acquiring job/work-related knowledge?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ b. writing clearly and effectively?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ c. speaking clearly and effectively?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ d. thinking critically and analytically?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ e. applying theories/concepts to practical problems/new situations?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ f. working effectively with others?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ g. enthusiasm toward this discipline?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ h. use of the library?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ i. use of computer technology?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. To what extent have your GENERAL EDUCATION COURSES contributed to your:

	Not at All	Very Little	Some	Quite a Bit	Very Much	N/A Don't Know
■ a. acquiring a broad general education?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ b. writing clearly and effectively?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ c. speaking clearly and effectively?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ d. thinking critically and analytically?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ e. understanding diverse cultures?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. To what extent:

	No Extent	Little Extent	Some Extent	Great Extent
■ a. do you have an understanding of the major issues facing society today?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ b. can you apply what you have learned in your major to resolving problems or concerns in society?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ c. do you have the experience necessary to appreciate both sides of an issue?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ d. are you aware of your responsibilities as a citizen, living and working in a global society?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ e. are empowered to continue learning throughout life?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ f. were computer labs at WKU adequate to meet your learning needs?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ g. were online learning systems at WKU adequate to meet your learning needs?...	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. To what extent did University Experience (Freshmen Seminar) contribute to:

	Not at All	Very Little	Some	Quite a Bit	Very Much	N/A Don't Know
■ a. your college experience?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
■ b. involving you in the campus and community?.....	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. Has your time to graduation increased because courses for your major were not offered during terms when you and your advisor had planned for you to take them?

■ ☐ Yes ☐ No

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	Never	Rarely	Occasionally	Often	Very Often	N/A Don't Know
7. As a student at WKU, HOW OFTEN have you:						
a. discussed career plans with a faculty member?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. been challenged to meet the expectations of faculty?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. discussed ideas from your classes with others outside class?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. participated in practicum courses, internships, co-ops, clinical assignments, or field experiences?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. interacted with people from different backgrounds or cultures?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. performed community service/volunteer activities?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. participated in research or creative projects with a faculty member?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. presented a project or paper with a faculty member?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. attended a play, concert, art exhibit, lecture, or other cultural event?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. participated in a meeting or activities of a professional organization?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. participated in study abroad or other international activities?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. participated in leadership training or had a leadership role?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. attended a WKU athletic event?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. worked with a faculty member on a project outside class?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. been contacted by your advisor concerning your degree program?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. made a class presentation?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. worked with classmates outside of class to prepare class assignments?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r. had serious conversations with someone of a different race or ethnicity than your own?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. discussed ideas from your readings or classes with faculty members outside class?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8a. While at WKU, on average, HOW MANY HOURS PER WEEK have you spent working in a job?						
<input type="checkbox"/> 0 <input type="checkbox"/> 1-5 <input type="checkbox"/> 6-10 <input type="checkbox"/> 11-15 <input type="checkbox"/> 16-20 <input type="checkbox"/> 21-25 <input type="checkbox"/> 26-30 <input type="checkbox"/> 30+						
b. HOW MANY HOURS PER WEEK do you spend doing volunteer work? (unpaid activities - religious organizations, hospitals, schools, off-campus charitable activities)						
<input type="checkbox"/> 0 <input type="checkbox"/> 1-2 <input type="checkbox"/> 3-4 <input type="checkbox"/> 5-9 <input type="checkbox"/> 10 or more						
9a. How many of the courses in your major included knowledge or activities that will help you become a contributing citizen?.....	None	Very Few	Some	Quite a Few	Almost All	N/A Don't Know
b. How many of your non-major courses included knowledge or activities that will help you become a contributing citizen?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. How many of the courses in your major required community involvement, volunteerism or other out-of-class learning activities?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. How many of your non-major courses required community involvement, volunteerism or other out-of-class learning activities?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. During the past year, how often have you participated in a community-based project as part of your course work?						
<input type="checkbox"/> Very Often <input type="checkbox"/> Often <input type="checkbox"/> Sometimes <input type="checkbox"/> Never						
11. To what extent has your course work at WKU:	Very Little	Some	Quite a Bit	Very Much		
a. contributed to your voting in local, state, or national elections?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
b. affected your contribution to the welfare of your community?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
c. helped you synthesize and organize ideas, information, or experiences?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
d. helped you analyze the basic elements of an idea, experience, or theory?.....	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
12. What is your ethnicity?						
<input type="checkbox"/> Non-Resident Alien <input type="checkbox"/> Female						
<input type="checkbox"/> Amer. Ind/Alaskan Native <input type="checkbox"/> Male						
<input type="checkbox"/> Asian/Pacific Islander						
<input type="checkbox"/> Black						
<input type="checkbox"/> Hispanic						
<input type="checkbox"/> White						
13. What is your gender?						
<input type="checkbox"/> Freshman						
<input type="checkbox"/> Sophomore						
<input type="checkbox"/> Junior						
<input type="checkbox"/> Senior						
<input type="checkbox"/> Grad. Student						
14. What is your classification?						
<input type="checkbox"/> Main Campus <input type="checkbox"/> Glasgow						
<input type="checkbox"/> South Campus <input type="checkbox"/> Owensboro						
<input type="checkbox"/> Elizabethtown <input type="checkbox"/> Radcliff						
<input type="checkbox"/> Fort Knox <input type="checkbox"/> On-line						
15. At which campus have you taken the majority (51% or more) of your work while at WKU?						