

I This chapter summarizes the history of the engagement concept, the development of the National Survey of Student Engagement (NSSE), and its impact on institutional researchers.

The National Survey of Student Engagement: Conceptual and Empirical Foundations

George D. Kuh

Because individual effort and involvement are the critical determinants of college impact, institutions should focus on the ways they can shape their academic, interpersonal, and extracurricular offerings to encourage student engagement.

—Ernest Pascarella and Patrick Terenzini (2005)

When the history of American higher education is rewritten years from now, one of the storylines of the first decade of the twenty-first century likely will be the emergence of student engagement as an organizing construct for institutional assessment, accountability, and improvement efforts. The engagement premise is straightforward and easily understood: the more students study a subject, the more they know about it, and the more students practice and get feedback from faculty and staff members on their writing and collaborative problem solving, the deeper they come to understand what they are learning and the more adept they become at managing complexity, tolerating ambiguity, and working with people from different backgrounds or with different views. Engaging in a variety of educationally productive activities also builds the foundation of skills and dispositions people need to live a productive, satisfying life after college. Said another way, engagement helps to develop habits of the mind and heart that enlarge their capacity for continuous learning and personal development (Kuh, 2003).

In this chapter, I briefly summarize the history of the engagement concept and the circumstances that led to development of the National Survey of Student Engagement (NSSE). Then I review the substance and evolution of NSSE and its impact on institutional researchers.

The Engagement Construct

The engagement premise has been in the literature for more than seventy years, with the meaning of the construct evolving over time (Astin, 1993; Pascarella and Terenzini, 2005; Pace, 1980):

- Time on task (Tyler, 1930s)
- Quality of effort (Pace, 1960–1970s)
- Student involvement (Astin, 1984)
- Social and academic integration (Tinto, 1987, 1993)
- Good practices in undergraduate education (Chickering and Gamson, 1987)
- Outcomes (Pascarella, 1985)
- Student engagement (Kuh, Schuh, Whitt, and Associates, 1991; Kuh and others, 2005)

One of the earliest iterations was the pioneering work of the eminent educational psychologist Ralph Tyler, showing the positive effects of time on task on learning (Merwin, 1969). In the 1970s, drawing on thirty years of his own research, C. Robert Pace developed the College Student Experiences Questionnaire (CSEQ), which was based on what he termed “quality of effort.” Pace showed that students gained more from their studies and other aspects of the college experience when they invested more time and energy in educationally purposeful tasks: studying, interacting with their peers and teachers about substantive matters, applying what they are learning to concrete situations and tasks, and so forth (Pace, 1990). Alexander Astin (1984) fleshed out and popularized the quality of effort concept with his “theory of involvement.” About the same time, the influential *Involvement in Learning* report (National Institute of Education, 1984), to which Astin was a major contributor, underscored the importance of involvement to student achievement. Since then, scholars such as Ernest Pascarella, Gary Pike, Patrick Terenzini, and Vincent Tinto have contributed scores of papers addressing different dimensions of student effort and time on task and their relationship to various desired outcomes of college (Pascarella and Terenzini, 2005; Pike, 2006; Tinto, 1987, 1993).

Today *engagement* is the term usually used to represent constructs such as quality of effort and involvement in productive learning activities. The introduction and widespread use of the NSSE (Kuh, 2003) and its two-year college counterpart, the Community College Survey of Student Engagement (CCSSE), helped cement student engagement in the higher education lexicon. By design, NSSE and CCSSE demonstrated that student engagement can be reliably measured across large numbers of institutions and that

engagement data can be used almost immediately by faculty and staff to improve the undergraduate experience. The growing emphasis on assessment, accountability, and transparency by the Commission on the Future of Higher Education (2006), commonly known as the Spellings Commission, and other groups further highlighted the relevance of engagement as an indicator of student and institutional performance and underscoring the role that institutions have in inducing students to take part in educationally purposeful activities (Kuh, 2001, 2003; Kuh, Schuh, and Whitt, 1991; Kuh and others, 2005). As a result, engagement increasingly has been featured in higher education policy discussions, the scholarly and institutional research literature, and the popular media.

The NSSE Story Abridged

Since the 1970s, instruments have been available for assessing some aspects of student engagement. These include the CSEQ (Kuh, Vesper, Connolly, and Pace, 1997; Pace, 1990) and a few other national surveys with similar types of questions, such as the Cooperative Institutional Research Program's Entering Student Survey and its follow-up version, the College Senior Survey (Astin, 1993). These instruments, designed and used primarily for research purposes rather than accountability and improvement, were fairly long and cumbersome to administer, which in recent years contributed to lower-than-desired response rates from survey-fatigued undergraduate students.

In the early 1990s, the U.S. Department of Education expressed interest in determining whether tools could be developed to provide institutions with valid, reliable information about the student experience and commissioned an evaluation of existing instruments toward this end (Ewell and Jones, 1996). But as is often the case with government-sponsored work, a change in political winds swept aside concrete steps to pursue the quality improvement agenda.

Even so, others remained convinced of the need for good data to guide improvements in teaching and learning. One such visionary was Russ Edgerton, who left the American Association for Higher Education to direct the education program at The Pew Charitable Trusts, which invested heavily in an educational reform agenda during the late 1990s. In early 1998, Edgerton brought together some experts to discuss ways to shift the national dialogue about collegiate quality from what college rankings typically emphasize—institutional resources and reputation—to authentic evidence of student learning and effective educational practice. Out of that discussion emerged the notion that a valid, reliable, widely used survey of student behavior and experiences could potentially be a helpful, instructive, and useful alternative to rankings. Subsequently Edgerton asked Peter Ewell of the National Center for Higher Education Management Systems to develop an instrument to assess the extent to which students take part in empirically derived good educational practices and what they gain from their college experience (Kuh, 2001).

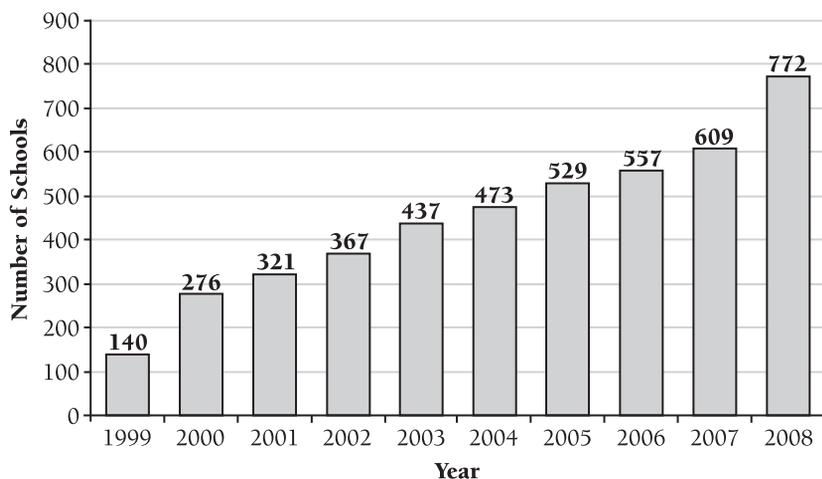
Ewell assembled a design team that spent several months developing the prototype of what became NSSE.¹ The main content represents student behaviors highly correlated with many desirable learning and personal development outcomes of college. Most of the items had been used in other long-running, well-regarded college student research programs (for example, the CSEQ and the Cooperative Institutional Research Program). In fact, about two-thirds of the original NSSE items were the same or similar to questions on the CSEQ (Kuh, 2001).

While the survey content was being determined, a handful of institutions and survey research centers were invited to bid on the project. The Indiana University Center for Postsecondary Research (IUCPR) was selected, in large part because of its proposed collaboration with an experienced professional survey organization, the Indiana University Center for Survey Research, and because Bob Pace had transferred the CSEQ to IUCPR in 1994. In 1999, IUCPR staff, in collaboration with the National Center for Higher Education Management Systems (NCHEMS) conducted two field tests, one with twelve schools and a second with sixty-eight institutions, before launching the first NSSE national administration in 2000 with 276 fee-paying colleges and universities.

Pew's hope was that the NSSE project would become self-supporting; indeed, few other efforts have been as successful as NSSE in this regard. Drawing on sound advice from the NSSE National Advisory Board and a Technical Advisory Panel, NSSE used much of The Pew largesse to underwrite the costs of the survey in its first three years to make it very attractive to potential users. The basic cost structure has not changed much since 2003, when Pew support ended and the project became self-sustaining through institutional user fees.

Three factors helped NSSE to hold costs steady. The first was the shift from a mailed paper survey (and its substantial postage and handling costs) to what is now essentially a Web-based survey operation. Second, NSSE enjoyed substantial annual increases in the number of participating institutions (Figure 1.1). Finally, grants and contracts allowed NSSE and its companion surveys at Indiana (Beginning College Survey of Student Engagement, Faculty Survey of Student Engagement, Law School Survey of Student Engagement), all of which also became self-supporting after initial start-up funding, to conduct studies of the psychometrics and use of the instruments, further demonstrating their value in the market.

In the early years, a few institutions, typically small, financially pressed private colleges, blanched at what they considered to be the high cost of NSSE relative to other student surveys. But over time, the versatility and industry-standard customer service provided by NSSE staff proved that the student engagement survey was essentially "institutional research in a box." All an institution had to do was provide NSSE student contact information, and NSSE did the rest, using population sampling for the smallest schools and random samples at larger colleges and universities. Equally important, increasing external pressures by accreditors, state systems, and others to collect and

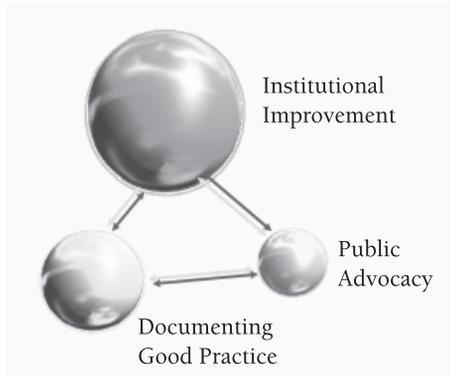
Figure 1.1. NSSE Institutional Participation, 2000–2008

use student experience data for accountability and improvement brought institutions to the realization that they had to spend more than a trivial amount of money on assessment tools for this purpose. In retrospect, NSSE came on the scene just as the “perfect accountability storm” was brewing and was exceptionally well positioned to provide some of what institutions needed with regard to measuring the undergraduate student experience.

NSSE’s Purposes and Philosophy

The NSSE project was founded on and continues to pursue three core purposes. The first, and most important, as represented by the size of the balls in Figure 1.2, is to provide high-quality, actionable data that institutions can use to improve the undergraduate experience. In the absence of actual measures of student learning, student engagement data are “process indicators,” or proxies, for learning outcomes. Among the better-known process indicators are the seven “good practices” in undergraduate education, such as setting high expectations and providing prompt feedback (Chickering and Gamson, 1987). Process indicators often point to areas that schools can do something about to improve student and institutional performance (Kuh, 2001; National Survey of Student Engagement, 2002).

NSSE’s annual reports and Web site provide scores of examples of how administrators and faculty members are using their NSSE results—such as patterns of student-faculty interaction and the frequency of student participation in other educational practices that they can influence directly and indirectly—to improve student learning. In addition, some states (South

Figure 1.2. NSSE Core Purposes

Dakota is one of them) and university systems (such as the University of Texas) employ NSSE data in their performance indicator systems and for other accountability functions.

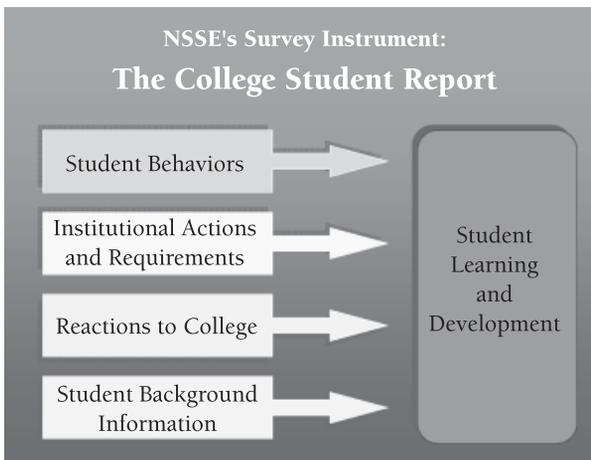
NSSE's second purpose is to discover more about and document effective educational practice in postsecondary settings. It does this in two primary ways: through careful, ongoing analyses of the annual NSSE results including experimental items, and research and related activities undertaken by the NSSE Institute for Effective Educational Practice (see <http://nsse.iub.edu/institute/>). The NSSE Institute was founded in 2002 to conduct externally funded research and work with institutions and other organizations with goals that complement those of NSSE. A fair amount of institute staff time is devoted to better understanding the factors associated with conditional and compensatory effects of engagement (Pascarella and Terenzini, 2005).² NSSE's third purpose is to advocate for public acceptance and use of empirically derived conceptions of collegiate quality. For example, its annual report features the national benchmarks for the five clusters of effective educational practice for different types of institutions. Substantial effort is devoted to making NSSE findings accessible to higher education reporters and the general popular media. NSSE's *A Pocket Guide to Choosing a College: Are You Asking the Right Questions* (2008) encourages prospective students and those who advise them to obtain more instructive information about the institutions they are considering. That is, instead of being satisfied with knowing how many books are in the library, the pocket guide encourages students to find out how many books a typical first-year student there actually reads, how often students discuss ideas outside class with their teachers and peers, and how many students study abroad, have internships, are part of a learning community, or conduct research with a faculty member. Institutions can answer these questions by reviewing their NSSE results.

Several hundred thousand copies of the pocket guide have been distributed nationally over the past few years.

Another of NSSE's advocacy efforts is to encourage institutions to publicly report their performance on NSSE and other indicators of collegiate quality. From the beginning, NSSE officially discouraged the use of student engagement results in any sort of ranking system. Instead we have worked with participating schools, higher education associations, and the media to better understand and focus on what matters to student learning. With NSSE, consumers could learn what they needed to know about the dimensions of student and institutional performance to make informed college choices and to help students maximize their learning and personal development. Today there is widespread agreement that public reporting is long overdue. In 2007, NSSE did its small part to further the transparency agenda by partnering with *USA Today* to make it possible for colleges and universities to post their NSSE benchmark scores and other information on the *USA Today* Web site (http://www.usatoday.com/news/education/2007-11-04-nsse-cover_N.htm).

Structure of the Instrument. The NSSE questionnaire collects information in five categories (Figure 1.3). First, it asks students questions about their participation in dozens of educationally purposeful activities, such as interacting with faculty and peers, the amount of time they spend studying or participating in cocurricular or other activities, including work on or off the campus. Seniors report whether they took advantage of such learning opportunities as being part of a learning community, working with a faculty member on a research project, internships, community service, and study abroad. First-year students indicate whether they have done or plan to do

Figure 1.3. Information Collected in the NSSE Questionnaire



these things. A second set of questions asks students about what the institution requires of them, such as the amount of reading and writing students did during the current school year and the nature of their examinations and coursework.

A third set of questions asks students about their perceptions of features of the college environment that are associated with achievement, satisfaction, and persistence including the extent to which the institution offers the support students need to succeed academically and the quality of relations among various groups on campus such as faculty and students (Astin, 1993; Pascarella and Terenzini, 2005; Tinto, 1993). Students' perceptions are not directly related to how much they learn; however, they are directly related to whether students will persist and are satisfied with their experience and, thus, indirectly related to desired outcomes. Direct measures of student satisfaction are obtained from two questions: "How would you evaluate your entire educational experience at this institution?" and "If you could start over again, would you go to the same institution you are now attending?"

In the fourth category, students provide information about their background, including age, gender, race/ethnicity, living situation, educational status, and major field. Having this information allows NSSE and other researchers to better understand the relationships between student engagement and desired outcomes for different types of students. With campus institutional review board approval, schools have the option to link their students' responses with their own institutional data in order to examine other aspects of the undergraduate experience. Institutions may also compare their students' performance with data from other institutions on a mutually determined basis for purposes of benchmarking and institutional improvement. This greatly enhances the power of student engagement data because institutions can better understand and more accurately estimate the impact of course-taking patterns, major fields, and initiatives such as first-year seminars, learning communities, study abroad, internships, and service-learning on achievement and persistence of students from different backgrounds and majors, as some of the chapter authors of this volume explain later.

Finally, students estimate their educational and personal growth since starting college in the areas of general knowledge; intellectual skills; written and oral communication skills; personal, social, and ethical development; and vocational preparation. These estimates are mindful of a value-added approach to outcomes assessment whereby students make judgments about the progress or gains they have made (Pace, 1984). Although they cannot substitute for direct measures of learning, student self-reported outcomes appear to be generally consistent with other evidence, such as results from achievement tests (Pike, 1995; Pace, 1985).

To make the instrument even more relevant to mission- or context-specific issues, consortia of at least six institutions can add up to twenty additional questions to obtain information specific to the interests of the group. Through 2008, there have been thirty-three groups of institutions

that have formed ninety-nine NSSE consortia; some groups, such as Jesuit colleges and women's colleges, have formed consortia multiple times. Twenty-three state or university systems have administered NSSE fifty-five times. (These consortia and systems are listed in Appendix A.)

NSSE Psychometrics, Benchmarks, and Scaletts. As with all other surveys, the NSSE relies on self-reports, the validity and credibility of which have been examined extensively (Baird, 1976; Pace, 1985; Pike, 1995). In general, the psychometric properties of NSSE are very good, and individual items and the overall instrument have been tweaked based on data collected over the years from focus groups, cognitive testing, and various psychometric analyses. (Much of this information is available at http://nsse.iub.edu/pdf/conceptual_framework_2003.pdf.)

To provide a common language and framework for discussing and reporting student engagement and institutional performance results, NSSE at the outset used a combination of empirical and conceptual analyses to identify a small number of clusters, or benchmarks, of effective educational practice (see Appendix B). This was necessary because talking in any comprehensible way about several dozen individual questionnaire items would not encourage instructive, reliable benchmarking against peer institutions or further another important goal of the project, which was to shift the nature of the national conversation about what constitutes quality in undergraduate education. The development of the five benchmarks is explained more fully elsewhere (http://nsse.iub.edu/html/psychometric_framework_2002.cfm).

To increase NSSE's utility, Pike (2006) tested twelve "scaletts," or clusters of questions on similar topics, which often have more explanatory power than the benchmarks. In addition, NSSE adds experimental items every year to see if alternative measures of engagement yield additional insights into what matters to student learning. One such module of items, deep learning, has produced a number of instructive findings that help explain, for example, disciplinary differences in student engagement and self-reported outcomes (Nelson Laird, Shoup, Kuh, and Schwarz, 2008).

NSSE and the Institutional Research Office

Another reason NSSE flourished is its widespread acceptance by institutional researchers. The NSSE design team was very sensitive to how institutional researchers could use NSSE results and sought input from representatives of the Association for Institutional Research (AIR) in developing the questionnaire and survey administration processes. Toward these ends, NSSE established a technical advisory panel to guide its development in the early years; most of its members were current and former institutional researchers.³ NSSE staff have been regular contributors to AIR meetings since 2000 and periodically have conducted focus groups with institutional research (IR) personnel there and in other venues. Each year the NSSE reports contain additional information presented in user-friendly formats so

that sections of the NSSE institutional report can be duplicated and distributed to various groups on campuses.

Nevertheless, some NSSE practices caused concern among some IR staff. In order to make college and university presidents and senior academic officers aware of the NSSE project, NSSE's National Advisory Board recommended that copies of the institutional and annual reports, along with other periodic correspondence, be sent directly to the president's office with the request to pass on the documents to the IR director and other staff such as the public relations officer. Some IR staff took umbrage at this approach, believing that because they were responsible for collecting and reporting student data for institutional decision making, this information should be delivered to their office first. As NSSE grew in size and influence, some IR directors accustomed to unilaterally determining the assessment instruments used by their school felt pressured by presidents and provosts to use NSSE. As a result, NSSE's intentional efforts to bring student engagement and different conceptions of collegiate quality to the attention of institutional leaders began to change the nature of the relationship between the IR office and senior decision and policy makers.

A salutary side effect of this approach was to increase the visibility and importance of the IR function on many campuses. Presidents more frequently asked IR directors to explain the institution's NSSE results, which prompted more discussions among IR personnel, provosts, academic deans, department chairs, and student affairs professionals. As the NSSE project evolved, NSSE developed mechanisms to alert IR offices in advance as to when NSSE reports would arrive on campus and the key findings would be available electronically, so that IR personnel could examine the findings and be prepared to explain them to others.

While not everyone will agree with this analysis, on balance NSSE's strategy of reminding key institutional leaders about the value of student engagement to the educational process and using data to guide institutional improvement increased the visibility of the IR office. Although this approach occasionally presented challenges, overall it served to strengthen internal communications and working relationships consistent with the goal of enhancing the quality of the undergraduate experience.

Conclusion

Institutions cannot change who students are when they start college. But with the right assessment tools, colleges can identify areas where improvements in teaching and learning will increase the chances that their students attain their educational and personal goals. NSSE and its two-year counterpart, CCSSE, provide high-quality, behaviorally oriented data about aspects of the student experience that are related to student success. Moreover, the results can be used almost immediately to focus on areas where emphasize-

ing good educational practice could yield more robust student outcomes. In this sense, student engagement is a construct whose time has surely come.

While it is gratifying that engagement is widely recognized as a desirable educational condition, the construct can be misinterpreted and misused. Indeed, proponents of popular ideas sometimes adopt a hegemonic, one-size-fits-all way of thinking. Student engagement is too important, as well as too complicated, for the educational community to allow this to happen. For example, as with other college experiences, engagement tends to have conditional effects, with students with certain characteristics benefiting from some types of activities more so than other students. In addition, the variance within any group of students, such as men and women or African Americans and Latinos, is almost always greater than between the groups (Kuh, 2003, 2008). We must be ever vigilant to be sure we are interpreting and using engagement data appropriately and continue to learn more about what forms of engagement work best under what circumstances for different groups of students. The following chapters in this volume offer guidance toward these and related ends.

Appendix A: NSSE Consortium and System Participation, 2000–2008

The total years of participation are in parentheses.

Consortia

- American Democracy Project (5)
- Arts Consortium (2)
- Associated New American Colleges (4)
- Association of American Universities Data Exchange (9)
- Association of Independent Colleges of Art and Design (3)
- Association of Independent Technical Universities (4)
- Bringing Theory to Practice (1)
- Canadian Consortium (1)
- Catholic Colleges and Universities (6)
- Colleges That Change Lives (1)
- Committee on Institutional Cooperation (1)
- Concordia Universities (2)
- Council for Christian Colleges and Universities (7)
- Council of Independent Colleges (2)
- Council of Public Liberal Arts Colleges (5)
- Flashlight Group (1)
- G13: Canadian Research Universities (2)
- Hispanic Serving Institutions (1)
- Historically Black Colleges and Universities (2)
- Information Literacy (1)
- Jesuit Colleges and Universities (6)

- Lutheran Colleges and Universities (1)
- Mid-Atlantic Private Colleges (1)
- Military Academy Consortium (1)
- Mission Engagement Consortium for Independent Colleges (1)
- Online Educators Consortium (1)
- Private Liberal Arts Colleges and Universities (6)
- Teagle Integrated Learning Consortium (1)
- Teagle Writing Grant Consortium (1)
- Texas Six (1)
- Urban Universities (9)
- Women's Colleges (8)
- Work Colleges (2)

Systems

- California State University (3)
- City University of New York (1)
- Connecticut State Universities (4)
- Indiana University System (1)
- Kentucky Council on Postsecondary Education (4)
- New Jersey Public Universities (1)
- North Dakota University System (2)
- Ontario Universities (2)
- Pennsylvania State System of Higher Education (1)
- Pennsylvania State University (1)
- South Dakota Public Universities (5)
- State University of New York (1)
- Tennessee Publics (1)
- Texas A&M System (4)
- University of Hawaii (1)
- University of Maine (1)
- University of Maryland (1)
- University of Massachusetts (2)
- University of Missouri (5)
- University of North Carolina (1)
- University of Texas (7)
- University of Wisconsin Comprehensives (4)
- University System of Georgia (2)

Appendix B: NSSE Benchmarks

The benchmarks are based on forty-two key questions from the NSSE that capture many of the most important aspects of the student experience. These student behaviors and institutional features are some of the more powerful contributors to learning and personal development.

Level of Academic Challenge. Challenging intellectual and creative work is central to student learning and collegiate quality. Colleges and univer-

sities promote high levels of student achievement by emphasizing the importance of academic effort and setting high expectations for student performance:

- Preparing for class (studying, reading, writing, rehearsing, and so forth related to academic program)
- Number of assigned textbooks, books, or book-length packs of course readings
- Number of written papers or reports of twenty pages or more; number of written papers or reports of between five and nineteen pages; and number of written papers or reports of fewer than five pages
- Course work emphasizing analysis of the basic elements of an idea, experience, or theory
- Course work emphasizing synthesis and organizing of ideas, information, or experiences into new, more complex interpretations and relationships
- Course work emphasizing the making of judgments about the value of information, arguments, or methods
- Course work emphasizing application of theories or concepts to practical problems or in new situations
- Working harder than you thought you could to meet an instructor's standards or expectations
- Campus environment emphasizing time studying and on academic work

Active and Collaborative Learning. Students learn more when they are intensely involved in their education and asked to think about what they are learning in different settings. Collaborating with others in solving problems or mastering difficult material prepares students for the messy, unscripted problems they will encounter daily during and after college:

- Asked questions in class or contributed to class discussions
- Made a class presentation
- Worked with other students on projects during class
- Worked with classmates outside class to prepare class assignments
- Tutored or taught other students
- Participated in a community-based project as part of a regular course
- Discussed ideas from your readings or classes with others outside class (students, family members, coworkers, or others)

Student-Faculty Interaction. Students learn firsthand how experts think about and solve practical problems by interacting with faculty members inside and outside the classroom. As a result, their teachers become role models, mentors, and guides for continuous, life-long learning:

- Discussed grades or assignments with an instructor
- Talked about career plans with a faculty member or advisor
- Discussed ideas from your readings or classes with faculty members outside class

- Worked with faculty members on activities other than course work (committees, orientation, student-life activities, and so forth)
- Received prompt feedback from faculty on your academic performance (written or oral)
- Worked with a faculty member on a research project outside of class

Enriching Educational Experiences. Complementary learning opportunities in and out of class augment academic programs. Diversity experiences teach students valuable things about themselves and others. Technology facilitates collaboration between peers and instructors. Internships, community service, and senior capstone courses provide opportunities to integrate and apply knowledge:

- Participating in cocurricular activities (organizations, publications, student government, sports, and so forth)
- Practicum, internship, field experience, co-op experience, or clinical assignment
- Community service or volunteer work
- Foreign language course work
- Study abroad
- Independent study or self-designed major
- Culminating senior experience (comprehensive exam, capstone course, thesis, project, and so on)
- Serious conversations with students of different religious beliefs, political opinions, or personal values
- Serious conversations with students of a different race or ethnicity
- Using electronic technology to discuss or complete an assignment
- Campus environment encouraging contact among students from different economic, social, and racial or ethnic backgrounds
- Participating in a learning community or some other formal program where groups of students take two or more classes together

Supportive Campus Environment. Students perform better and are more satisfied at colleges that are committed to their success and cultivate positive working and social relations among different groups on campus:

- Campus environment provides the support you need to help you succeed academically
- Campus environment helps you cope with your nonacademic responsibilities (work, family, and so on)
- Campus environment provides the support you need to thrive socially
- Quality of relationships with other students
- Quality of relationships with faculty members
- Quality of relationships with administrative personnel and offices

Notes

1. The members of the design team that Peter Ewell convened to develop the NSSE questionnaire were Alexander Astin, Gary Barnes, Arthur Chickering, John N. Gardner, George Kuh, Richard Light, and Ted Marchese.

2. While engagement in effective educational practices generally benefits all students, the more pronounced effects tend to be conditional and sometimes compensatory (Cruce, Wolniak, Seifert, and Pascarella, 2006; Kuh and others, 2008; Pascarella and Terenzini, 2005). Conditional effects represent differences in the amount of change or development or learning of one group of students relative to other groups. Compensatory effects indicate that students who may start college underprepared in one or more areas benefit differentially compared with their relatively advantaged peers by participating in certain programs or practices. For example, Kuh and others (2008) found that a global measure of engagement (composite score based on eighteen items from NSSE) boosted to a small degree the first-year grade point average of students who entered college with lower levels of academic achievement as well as persistence of African American students.

3. The original NSSE Technical Advisory Panel members were Trudy Banta, Gary Barnes, Emerson Elliot, Peter Ewell (chair), John Gardner, Sylvia Hurtado, John Kennedy, Alex McCormick, Deborah Teeter, and Patrick Terenzini. Gary Pike also began to regularly contribute to efforts to strengthen NSSE psychometrics beginning in 2003.

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GEORGE D. KUH is Chancellor's Professor of Higher Education and director of the Center for Postsecondary Research at Indiana University–Bloomington.