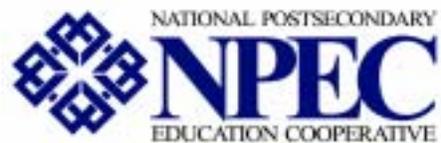


Enhancing Student Success in Education:

Summary Report of the NPEC Initiative and National Symposium on Postsecondary Student Success

Peter Ewell
Jane Wellman
May 2007



ABOUT THE NATIONAL POSTSECONDARY EDUCATION COOPERATIVE

Established by the National Center for Education Statistics (NCES) in 1995, the National Postsecondary Education Cooperative (NPEC) is a voluntary partnership of all sectors of postsecondary education, including institutions, organizations, associations, and state and federal government offices. NPEC's mission is to promote the quality, comparability, and utility of postsecondary education data for policy development at the federal, state, and institutional levels. NPEC is funded by NCES, an agency of the U.S. Department of Education.

TABLE OF CONTENTS

Section		Page
1	INTRODUCTION/OVERVIEW	1
2	DEFINING THE TOPIC: STUDENT SUCCESS AND PUBLIC POLICY..	2
3	THEMES FROM THE BACKGROUND PAPERS.....	5
4	THEMES FROM SYMPOSIUM DISCUSSIONS.....	8
	1. Act On What We Know	8
	2. Intentionality and Alignment	10
	3. More Fine-Grained Research Models and Policy Approaches	12
	4. Action Research.....	14
5	FOOD FOR THOUGHT	16
6	SUGGESTIONS FOR A NATIONAL STRATEGY	18
	REFERENCES	21

LIST OF APPENDIXES

Appendix		
A	List of Student Success Commissioned Papers	23
B	Authors' Biographies.....	24
C	Roster of NPEC Executive Committee and Student Success Working Group Members	25

1. INTRODUCTION/OVERVIEW

This report synthesizes major themes and findings from the National Postsecondary Education Cooperative (NPEC) Symposium on Student Success. The Symposium was the culminating event of the 3-year initiative on student success designed to advance NPEC's mission to promote the quality, comparability, and utility of data and information that support policy development at the federal, state, and institution levels. The work has focused on research on different dimensions of student success and the factors that are related to success for different types of students in diverse institutional settings. Its goal has been to synthesize what is currently known about student success; identify gaps in current knowledge to frame a research agenda for the future; and build connections between postsecondary researchers, practitioners, and policymakers interested in improving student success.

NPEC began this initiative by commissioning five experts to author papers that address the question "What is student success?" based on comprehensive reviews of the research literature. James Hearn from University of Georgia was commissioned to summarize and synthesize the five papers, and additional researchers and leaders in postsecondary education were selected to "respond" to them. Responders were asked to identify alternative definitions of student success, research work that still needs to be done, and policy issues that need further consideration and discussion. The Student Success Initiative culminated in a 3-day symposium held November 1–3, 2006, in Washington, DC, that was attended by over 400 individuals, including researchers, teachers, policymakers, elected officials, administrators, and students. The Symposium was anchored by addresses from Harvard President Derek Bok and U.S. Secretary of Education Margaret Spellings, and juxtaposed panel presentations by research experts with breakout sessions designed to identify issues and build consensus about next steps among conference participants. In addition, collaborating with the Association for Institutional Research (AIR), NPEC sponsored several research grants in the area of student success that were presented at the symposium. A listing of the authors and titles for these background materials are provided in Appendix A to this report, and the Symposium agenda may be found at http://nces.ed.gov/npec/pdf/symp_agenda_FINAL_10_06.pdf.

This report by Peter Ewell and Jane Wellman was commissioned by NPEC to provide a thematic synthesis of ideas emanating from the Symposium, and also to address selected topics not raised during the 3-day event. (See appendix B for brief biographies for Ewell and Wellman.) It is not meant to reiterate all of the major research findings or to replicate the conference discussions. Instead, it presents the authors' assessments of the conclusions that should be drawn from the work, most importantly about ways to *use* research results to enhance student success. It begins with a short discussion about definitions of student success and the public policy context for the increasing interest in improving student success. Sections 3 and 4 review the major themes from the commissioned papers and responses to them, and the primary points of consensus about the issues from the conference. Section 5 then moves to a discussion of the issues that did *not* emerge as major topics within the Symposium, as food for thought for future work. The report concludes with suggestions about a comprehensive agenda for enhancing student success, with some specific suggestions about future directions for NPEC in this thematic area.

2. DEFINING THE TOPIC: STUDENT SUCCESS AND PUBLIC POLICY

“Student success” can be understood in its simplest form as getting students into and through college to a degree or certificate. Yet a persistent theme of the background papers and discussions at the Symposium is that there are many different aspects of student success. Each has implications for how success should be measured and for strategies to change behavior to improve performance. “Student success” is thus a generic label for a topic with many dimensions, ranging from *student flow* across the entire educational pipeline (high school graduation, college enrollment, retention, and degree completion), to the *quality and content* of learning and skills achieved as a result of going to college, to positive *educational experiences* (such as student engagement or satisfaction). Measures of *success* also have different units of analysis, depending on whether success is assessed for individual students, for groups of students defined in terms of different combinations of characteristics, or for institutions, and for each, those units of measurement can be aggregated to state and national levels.

Parsing the different aspects of student success is an important first step toward connecting information derived from research with practices and policies to effect change, because the solution needs to fit the problem. As just one example, if the primary problem is inadequate numbers of students completing baccalaureate degrees, then measures to improve 4-year college retention and community college transfer-effectiveness make sense from a public policy perspective. But, if the principal public policy problem is poor quality of learning and skills among college graduates, then assessments and interventions that directly focus on measuring and improving the quality of learning are needed. For policies to be successful in leveraging change, they need to be placed into a context that allows judgments about what needs to be changed and which specific aspects of performance need to be improved. While more can be done to show improvements on all of the many dimensions of student success, not all dimensions are equally problematic from a public policy perspective. And it is possible to have success on one dimension at the same time that indicators of performance are stalled, or even declining, in others.

In fact, just such a contrast between improvements in some aspects of student success with sobering statistics about real and growing declines elsewhere aptly describes the current state of U.S. postsecondary education. For instance:

- Nationwide, the academic preparation of high school students for college-level work has improved over the past decade (NCPPE 2006).
- Institutions are doing more to focus on ways to increase student success through work on assessment of learning, attention to teaching, more early outreach programs designed to improve academic preparation for college-level success and student support services. All of the accrediting agencies now put assessment of student learning at the center of the quality review (Ewell 2006).
- Postsecondary enrollments are at an all-time high, and despite double-digit tuition increases since the late 1990s, the proportion of high school graduates going on to initial enrollment in college has remained fairly steady (NCPPE 2006). Growing institutional aid to cushion needy students from the shock of tuition increases explains some of this. The majority of students going to college now receive some form of financial aid, so that net prices have risen much less rapidly than sticker prices (College Board 2006).

- The United States remains a world leader in the proportion of all adults with college credentials, and the country is also at the top of international performance in the proportion of young adults enrolled in college (OECD 2006).
- College completion rates have increased slightly over the past decade—primarily because of the growing number of students completing certificates, but also because of modest increases in baccalaureate and associate’s degree completions (NCPPE 2006).

However, at the same time:

- High school graduation rates in the United States have declined in the last decade. Thus, despite the growth in postsecondary enrollments, overall U.S. *rates* of educational participation (participation in education measured against total population) are declining (NCPPE 2006).
- The U.S. is now 19th among Organisation for Economic Cooperation and Development (OECD) countries in rates of high school completion.¹ And the United States is not making the same strides as other countries in increasing postsecondary attainment. Since 1995, on average, OECD countries increased the proportion of young adults attaining postsecondary education by 36 percent, compared to only a 5 percent increase for the United States. As a result, the United States has slipped from 1st among OECD countries in collegiate attainment for the young adult population to 7th, and is now 19th in the proportion of college students who persist to a degree or credential (OECD 2006).
- Investments in student financial aid have not materially reduced disparities in access and degree attainment for low-income students. The single biggest predictor of college enrollment and graduation remains socioeconomic status, not academic performance. This bodes ill for college access and attainment for the next generation of college students, three-quarters of whom will be coming from low-income families (Carnevale and Fry 2000; Martinez 2004).
- If achievement gaps separating low-income students from their wealthier counterparts and African American and Latino students from their White and Asian American counterparts are not closed, the nation faces dramatic shortages in the numbers of skilled workers needed to replace retiring baby-boomers, and to meet growing demands for educated workers (Carnevale and Desrochers 2003, Committee for Economic Development 2005).
- College affordability for poor and middle-income students is at risk because of double-digit tuition increases in the last 5 years alone and because of slow or no increases in federal and state need-based financial aid (College Board 2006; NCPPE 2006). Although institutional aid has cushioned the effects of tuition increases for many students, the majority of institutional spending for student aid is not going to needy students.(College Board 2006) Spending on institutional aid in the form of tuition discounts now composes the fastest growing area of spending in higher education (NCES 2002).
- The system of finance for postsecondary education is stretched very thin due to a combination of state funding cuts, enrollment increases, and cost pressures within institutions. Per capita funding for public institutions fell to a 20-year low in 2006. Structural budget constraints on state and federal funds mean that this tight funding climate will likely continue at least for the

¹ Reported by OECD as “upper secondary completions,” this rating is based on an approximation, because the United States does not have a single national high school graduation rate.

next decade. Funding shortfalls have forced budget cuts in many institutions, particularly in instructional areas, leading to a shift from full-time to part-time and adjunct faculty. Continued resource stringency presents a clear threat to our future capacity to maintain access and quality, a particular concern for institutions that serve the majority of poor and minority students (SHEEO 2006).

- There is growing concern that the knowledge, skills, and abilities of college graduates are not what they should be (U.S. Secretary of Education 2006; Bok 2006; Business-Higher Education Forum 2004; AACU 2002). Aggregate measures of college-level learning are hard to come by, but those that exist are not reassuring. The National Assessment of Adult Literacy (NAAL) showed that average prose, document, and quantitative literacy scores for college graduates—including adults with graduate degrees—declined between 1992 and 2003. Among adults with graduate degrees, the proportion scoring “proficient” in basic literacy skills declined from 51 percent in 1992 to 41 percent in 2003; proficiency in document skills fell even more, from 45 percent to 31 percent. Similarly discouraging results were found in a different study of college-student literacy conducted by researchers Baer, Cook, and Baldi (2006). In an increasingly global economy, U.S. college students’ levels of awareness of global issues are well below those in other countries. Enrollments in foreign languages have declined since the 1960s, and less than 20 percent of 4-year colleges require more than 2 years of language study (Bok 2006).
- The nation faces growing shortages in many professions that depend on education in one of the STEM (science, technology, engineering, and mathematics) disciplines (National Academies of Sciences 2006). Yet only about a third of U.S. baccalaureate degrees are in STEM disciplines—a proportion that has remained steady for the last several decades—in comparison to over 60 percent in Japan, 57 percent in China, and 47 percent in Korea (NSF 2006).

So, despite positive signs in some areas, the overall diagnosis of where student success is headed in U.S. postsecondary education is not good. There are large and growing gaps between what the nation needs from postsecondary education and the current—and, likely future—production capacity of the system to meet these needs. The gaps are *quantitative* (postsecondary access and degree attainment are not growing fast enough to meet population growth or to maintain international economic competitiveness), *qualitative* (the learning outcomes of graduates are not what society needs them to be, either in basic academic areas or in workforce readiness), *occupational* (too few professionals are being produced to meet needs for skilled workers), *socioeconomic* (racial and economic disparities are not being closed), and *financial* (problems of affordability are growing, and there are greater disparities between institutions in funding adequacy). For the past half century, higher education has been the primary engine fueling American economic competitiveness. Yet at a time when higher education is increasingly the ticket to success for citizens and society, we risk losing our historic advantage in the face of growing capacity in the rest of the world.

This tension between dimensions of success—in particular the difference between what success means for a student or an institution, in contrast to what *society* needs from higher education—is at the root of public debate about the issue. As discussed in more detail in the next two sections, there is a good deal of consensus in the research community about what constitutes student success from the perspective of the student or the institution. Less is known about how to use this knowledge to change behaviors and how to do a better job of meeting society’s needs for student success. We believe that the consensus of the Symposium was that these issues are urgent. More needs to be done to use research to galvanize action, with a particular focus on strategies to leverage change across traditional institutional boundaries. Suggestions for specific strategies for moving forward are discussed in more detail in section 6 of this report.

3. THEMES FROM THE BACKGROUND PAPERS

Five commissioned papers were prepared in advance of the Symposium, together with seven reaction papers intended to comment on the points raised in the commissioned papers. Together, these 12 papers are an impressive body of work and constitute a substantial contribution to summarizing and synthesizing the research to date on student success in postsecondary settings. A final summary paper was prepared by James Hearn to examine common themes from the background papers and to identify topics less well covered that might be potential topics for further inquiry. Hearn's conclusions provide a good basis upon which to summarize the points made in the rest of the background papers.

Hearn first identified a number of themes shared by all background papers. Somewhat modified by our reading of the papers, these include the following:

- **Student success is heavily influenced by precollege background and experiences, as well as by current student context.** Research emphasizes that students differ widely in their readiness for postsecondary education, and these differences matter a lot with respect to postsecondary outcomes. Experiences in elementary and secondary education constitute the bulk of these influences, but others include socioeconomic and family influences, as well as peer effects and early psychological factors. Our reading of the background papers adds current context to this mix of factors. A prominent theme across most of these papers is that the impact of collegiate experiences is heavily conditioned by each student's economic circumstances, social and cultural milieu, and attitudes and values (both in general and specifically toward higher education). As Tinto and Pusser write, "each student exists in a particular context that shapes his or her probability of succeeding in higher education." Research repeatedly demonstrates that known and reasonably predictable background and contextual factors explain most of the variance in any measure of collegiate success. Higher education policy, in itself, cannot alter these factors. But knowledge of conditional effects—what works for whom under what circumstances—can help target investments and interventions at all levels more precisely on areas of high potential payoff.
- **What colleges do matters a lot.** Although background and student context heavily influence college outcomes, there is some consensus in the research literature that specific educational practices increase the probability of student success across the board. Included among those identified by Hearn are high expectations that student will succeed, curricular and behavioral integration, pedagogies involving active learning and collaboration, frequent feedback, time on task, respect and engagement with diversity, frequent contact with faculty, connections between academic and non-academic experiences, and an emphasis on the first year of study. This list, of course, is not new and is typical of many similar "good practices" that have been identified for at least two decades (e.g., Chickering and Gamson 1987). The significance for policy and practice today is that greater systematic investments in these educational practices by governments, and more time and attention devoted to these practices by institutions will probably yield better results in college outcomes.
- **What faculty do to create and deliver educational experiences is the single most potent component of what institutions do.** Research confirms that the individual classroom or educational encounter is decisive. Although institutional culture and government policy can provide a supportive climate, these influences matter little if faculty do not follow through. The structure and direction of the incentive system that shapes faculty behavior is therefore critical because, as Hearn emphasizes, the American higher education system values individual faculty

self-determination and autonomy. The clear policy message is for institutions and governments to more deliberately shape these incentives to induce faculty to do the right things. A significant theme from the Braxton paper was the need to improve the professional skills of faculty already tasked to teach.

- **The alignment and coordination of efforts to improve student success is important.** While the above emphasizes the importance of individual settings, research also demonstrates that positive effects are amplified if they are consistent and sustained. The same is true for government higher education policies. Several specific areas of coordination are notably important, including academic standards alignment between K–12 and postsecondary settings, curricular and behavioral alignment between 2- and 4-year institutions (especially in the light of growing student mobility and patterns of multi-institutional attendance), and partnerships between academic and student affairs. Although difficult to achieve in the context of loosely coupled organizational settings of colleges and universities, and the relatively short-term agendas of most government actors, the clear message for policymakers is to carefully inventory available policy tools and use them in ways that are consistent and mutually reinforcing.
- **Systematic information about student outcomes and behaviors is a valuable auxiliary.** Although information resources, like research, cannot improve student success in themselves, the background papers conclude that they are important tools to guide improvement.² Again, this conclusion is relevant to all educational levels. Information about the progress of individual students is valuable for guiding intervention, information about program performance is needed for program improvement, and information about institutional performance is needed to guide investment and ensure appropriate accountability. The specific message for policymakers is to make greater investments in information systems at both the institutional and the state/federal levels that can provide important support for both research and policy. Bailey’s response paper, for example, stresses the potential benefits of allowing scholars to access the rich array of longitudinal data already available to higher education agencies in many states.

The background papers also identify a number of common challenges to improving current levels of student success. Again, Hearn’s summary is a useful place to begin in reviewing the most important:

- **How to define and measure student success.** The background papers looked at many potential meanings of “student success” beyond just increasing degree attainment. While each paper proposed its own taxonomy, the most prominent additional definitions were cognitive learning outcomes, personal satisfaction and goal attainment, job placement and career advancement, civic and life skills, social and economic well-being, and commitment to lifelong learning. While the papers cautioned about overly narrow definitions of student success, though, few proposed concrete measures for these constructs. Furthermore, as Hearn points out, any concrete measure must pass tough tests of being credible to and being understood by policymakers and the public. These requirements make it likely that possession of a college credential (e.g., a degree)—disciplined by regularly updated information about “educational capital” in the form of higher order literacy skills to ensure that U.S. degrees remain internationally competitive—will remain the essential policy measure for the foreseeable future.

² Unlike Hearn’s previously identified commonalities, there is little direct empirical support for this proposition in the background papers, with the possible exception of Kuh et al.

- **How to achieve success cost effectively.** As Hearn notes, few of the background papers explicitly mentioned cost. Although specific actions and programs can be deemed effective based on research findings, they were not examined in terms of which might provide the greatest return on investment. Given the policy imperative of greatly expanding current levels of postsecondary attainment in light of international competitiveness and the probable ceiling on future investment of public funds in higher education, cost-effective approaches will be mandatory for both institutions and governments.
- **How to implement the things research tells us to do.** With the significant exception of Tinto and Pusser, the background papers did not say much about how to translate research findings into institutional and government action. At least two dimensions of this omission are important. First, although research findings on the factors that influence student success are solid, many of them have not been tested at scalable levels. Second, there is little research-based knowledge about how institutions of higher education do or do not adopt new approaches to teaching and learning that research suggest. Both of these gaps noted by Hearn foreshadow a prominent theme that we saw in the Symposium itself—the need for *action* research to implement research results that appear promising.
- **The need to avoid simplistic and one-size-fits-all solutions.** The authors of the background papers and Hearn agree that the kinds of policy “solutions” that will be most effective will vary appropriately across student populations and institutional contexts. At the student level, different populations may require different kinds of interventions. At the institutional level, differences in mission, circumstances, and student clientele will necessarily yield differences in student outcomes. Applying uniform accountability or performance measures without taking these differences into account will be counterproductive. It is, however, unlikely that policymakers and the public will understand or support different and varied approaches that appear inconsistent or unfair. So it is important to satisfactorily explain and deal with complexity without losing the political goodwill that accompanies an understandable and compelling policy goal around student success.
- **New institutions and settings.** A final implementation challenge is that the landscape of higher education is increasingly moving away from the settings in which most of the research on student success has been conducted. One dimension is the emergence of private, for-profit institutions and the growing proportion of students served by community colleges. Another dimension is the impact of distance and technologically mediated instructional formats. These new institutions and settings both need to become the object of research to learn how they can best adopt or adapt practices already shown to work in more traditional academic contexts.

4. THEMES FROM SYMPOSIUM DISCUSSIONS

Presentations and discussions at the Symposium reiterated many of the points made by the background papers. But the diversity and richness of backgrounds that participants brought to the Symposium enabled many of their implications to be more fully developed. Running throughout the Symposium, however, was a palpable tension between the perceived urgency of the challenges facing U.S. higher education brought by policy leaders on the one hand, and the deliberateness and detail-focused approach of the higher education research community on the other. The opening plenary by Derek Bok set the tone for the first point by emphasizing that the nation's colleges were underperforming with respect to graduating more, and more capable, college graduates. To perform at the appropriate levels, he emphasized, would require greater commitment from individual faculty to learn the latest approaches to teaching and learning, more attention from faculty collectively to learning across the curriculum, and clearer expectations and more routine assessments of student learning outcomes. And Bok's message about the need for credible evidence for quality in higher education was reinforced by Secretary Spellings' calls for better information to inform higher education policy and improve consumer choice. The underlying message of both presentations was clear: increasing student success is a matter of compelling national need that demands sustained policy attention. In contrast, discussions of research findings in plenary and small group sessions at the Symposium frequently were more cautious and nuanced, emphasizing the many things *not* known about the factors responsible for student success, how definitions of "success" themselves were unsettled and contentious, and the limited applicability to practice of any given research finding. The resulting dialectic, while sometimes unsettling to us as observers, was in many ways responsible for the wide array of ideas for research and action that the Symposium ultimately generated through its discussions.

The themes of the Symposium that we observed are discussed under four headings in the subsections that follow. Within each, we first present the essence of the theme, followed by implications for policy and for further research. Specific ideas and initiatives that are directly relevant to NPEC's mission are occasionally noted here, but are further elaborated in section 6 of the report.

1. Act On What We Know

There were substantial discussions at the Symposium that a considerable volume of research has proven the efficacy of several teaching and learning practices and institutional practices. These practices have been shown to work for most students most of the time. Consequently, the priority ought to be to be placed not on engaging in further confirmatory research, but instead on converting these findings into action.

Discussions among conference participants consistently identified a number of these practices specifically, which were also broadly consistent with the conclusions of many of the background papers (especially Kuh et al. and Tinto and Pusser).³ Prominent among them were the following:

- **The use of active and engaging pedagogies, including learning communities and collaborative approaches.** There is a long tradition of research on the efficacy of these practices. The importance of active learning and involving educational environments in improving student retention has been established for three decades (e.g., Astin 1978), while the

³ These conclusions are based on participant responses provided either through notes of the eight discussion sessions held on Friday, November 3, or response cards asking participants to share action ideas collected throughout the Symposium.

impact of collaboration on learning outcomes has been known for at least two (e.g., Chickering and Gamson 1987). The embodiment of both in learning communities has been more recently shown to be effective (Leigh Smith et al. 2004). All of these, moreover, have been shown to have their most important effects in the first year of college study.

- **High and clear expectations for students.** Setting high expectations with the conviction that students will meet them is another established practice that has been validated (e.g., Kuh et al. 2005). Participant comments emphasized, though, that high standards in themselves are insufficient because they must be accompanied by support structures that allow students to meet them without “watering down” classrooms or curricula. Recognizing differences in academic preparation and cultural background among students may lead to different treatments, but all students should be expected to meet the same outcomes or standards.
- **Proactive early warning and intervention strategies for students with academic deficiencies.** There is a substantial difference between providing academic support as a *service* for students to elect to participate in voluntarily and a more intrusive approach in which student progress is monitored actively in detail, with mandatory intervention if difficulties are encountered. Participants frequently noted the latter as an important ingredient in effective institutional student success strategies. It was seen as especially critical in community college settings, where the traditional approach to academic support tends to emphasize service provision over active intervention.
- **Mandatory assessment of basic skills and directed placement of students in need of developmental work.** While a special case of the item above, there is considerable evidence that directed placement—in contrast to simply advising students that they should seek remediation—is effective in moving students with academic deficiencies to college-level work, especially for reading and mathematical skills. While no consensus emerged from the Symposium discussions on precisely what level of basic skills should constitute college readiness, the effectiveness of mandatory assessment and directed placement was deemed sufficiently well documented to implement these practices more consistently and on a broader scale.

Consistent with the background papers, Symposium participants suggested that these four widely established approaches were validated by the existing research literature to such an extent that they should be implemented quickly by all institutions on a much broader scale. Symposium participants also mentioned other practices or approaches that appeared promising, but where research-based evidence of effectiveness was less well established. Among them were the following:

- **Early assessment in the final years of high school using college-level academic skills benchmarks, and partnering with high schools to align standards and tailor the culminating years of high school to address any assessed deficiencies.** The most prominent current example of such an early assessment initiative is that begun by the California State University (CSU) system 3 years ago. The CSU initiative, although well documented, has not been in place long enough to demonstrate its effectiveness. Nevertheless, many Symposium participants perceived the evidence to be sufficient to act on this idea promptly and broadly.
- **Faculty development for new teaching staff on how to implement pedagogies that research has shown to be effective.** Many institutions, of course, already have faculty development resources in place—usually under the auspices of a Center for Teaching and Learning. But participation is voluntary and is not targeted specifically for new faculty. In

other nations, for instance, the United Kingdom, participation in a nationally accredited staff development course is mandatory for all new faculty. Symposium participants noted that such an initiative might be especially effective in community colleges, which typically lack Centers for Teaching and Learning and make extensive use of part-time instructors.

- **Electronic portfolios as an alternative means to assess student achievement.** Participants in the breakout discussion sessions seem to agree that better evidence of student learning outcomes was needed both to demonstrate accountability and inform improvement. But many concerns were expressed about standardized testing as the only avenue for collecting evidence of student academic achievement. One promising alternative raised in several discussions was the growing power of electronic portfolios, that is, documented collections of student work organized around clearly stated achievement expectations for all students and assessed in terms of common and visible standards. This approach would reinforce the calls for basing a national approach to assessment on “our students’ best work” (AACU 2002). Because the examples of student work that such portfolios contain have already been generated in the course of students’ regular academic work, the approach does not require the establishment of an elaborate—and probably expensive—testing infrastructure.
- **More sophisticated and carefully targeted financial aid strategies.** Consistent with the recommendations of the Spellings Commission that were released prior to the Symposium, a strong message from both the plenary and discussion sessions at the Symposium was the need for greater investments in need-based financial aid. This message had two dimensions: more aid in general, and less aid for students who would likely attend college without it. But participants also noted that research was beginning to demonstrate the effectiveness of some specific approaches to supplying financial aid. Among the most frequently cited approaches in the background papers (e.g., Kuh et al., Tinto and Pusser) was the availability of a pool of “emergency” aid that could be granted quickly and flexibly to students experiencing temporary financial dislocations like losing a job or a death in the family.

While research has not fully validated any of the above approaches, early results are promising enough that participants believed that they should be more widely implemented. Doing so systematically, with evidence-gathering about effectiveness included as an integral part of the implementation process, would constitute an excellent demonstration of the action research approach that was also a major theme of the Symposium.

2. **Intentionality and Alignment**

The second cross-cutting theme of the Symposium was the need to ensure that policies established by different actors are aligned in service of commonly established goals for student success. Participants also suggested that further research efforts aimed at understanding and improving student success needed to be similarly intentional and aligned. A common observation was that up to now, both research and practice have been episodic and piecemeal. Individual efforts in both arenas are often undertaken independently as “projects” in pursuit of short-term goals, rather than being seen as components of a larger student success agenda. Symposium participants from the policy world—legislators and board members—were particularly critical of existing approaches because of the dominance of *silos* defined by arbitrary bureaucratic boundaries and long-established organizational *turf*.

Several dimensions were present in the discussion of alignment from the viewpoints of policy and practice. Most prominent was the difficulty of bridging the policy gap between the K–12 and

postsecondary education sectors. This gap probably has the greatest consequences for student success because of the substantial difference between high school exit standards and what colleges and universities define as “college readiness” (Callan et al. 2006). While many states have established a nominal structure for P–16 coordination and conversation, it is clear from continuing debates about how to fund and administer such initiatives as early assessment and early college high schools that few of these efforts have moved beyond rhetoric.

A second important aspect of alignment is across jurisdictions—federal, state, and institutional. For example, resource allocation processes typically are developed independently at each jurisdictional level, with little understanding of how they mutually reinforce one another or provide institutions with contradictory incentives. Further, these incentives themselves are frequently unexamined with respect to their potential impact on student success. Some of the participants at the Symposium, for instance, raised the question of using tuition policies more deliberately to provide incentives for students to complete their degrees more quickly and without more credits than are necessary to obtain a degree, or of institutions directing more attention to course completion or faculty development.⁴ Greater attention to alignment was also perceived as needed across units or programs within jurisdictional levels. For instance, the discussions about state and federal policy noted that different, and sometimes contradictory, signals are often sent to institutions by different departments and offices at both the federal and state levels.

Within institutions, many parallel instances of the need for better alignment were noted. One of the most familiar was the coordination between academic affairs and student affairs in the context of a wider institutional goal for student success. Another, equally familiar, challenge is coordinating faculty development and student success efforts across academic departments, where organizational autonomy and flexibility are prized. Above all, participant discussions about alignment at institutions emphasized the need for sustained engagement to avoid the common phenomenon of *project-itis*—the tendency for student success initiatives to be funded separately from mainstream operations (frequently through philanthropy) in a series of uncoordinated one-shot efforts that last only as long as the money lasts. In contrast, institutions that have demonstrated substantial success in improving student progress are characterized by leadership approaches that attempt to round up separately administered and funded initiatives under a more unified and clearly articulated program (e.g., Kuh et al. 2005).

As this last example illustrates, a necessary condition for achieving better alignment in the realm of policy and practice is intentionality. At the state level, SHEEO agency participants in the Symposium sessions noted the importance of establishing a public agenda for higher education, characterized by a few clearly articulated goals that emphasize the benefits to the state and its citizens of achieving higher levels of postsecondary attainment.⁵ At the institutional level, participants again emphasized the role of executive leadership in establishing a culture of student success to which all units and programs can contribute (Kuh et al. 2005; AASCU 2005).

Discussions on alignment in the realm of research were also characterized by a number of subdimensions. One, foreshadowed by some of the background papers (e.g., Perna and Thomas), focused on the need for more interdisciplinary work. These discussions also stressed the benefits of undertaking such interdisciplinary work from a problem-based standpoint rather than adopting a methodological standpoint of hypothesis testing or theory verification. A problem-based stance for research also implies the need to include stakeholder voices in defining a research agenda on student success.

⁴ The latter was also a prominent recommendation of the background papers by Braxton and Hearn.

⁵ Kentucky’s “Five Questions” that guided the overall development of the state’s substantial new investment in higher education 5 years ago under the leadership of Governor Paul Patton were cited by several participants as a relevant example.

3. More Fine-Grained Research Models and Policy Approaches

Despite the call to “act on what we know,” a third cross-cutting theme that we heard at the Symposium was the need to avoid simplistic approaches in both research and policy. Scholarly research on student success traditionally has sought to establish the validity of generalized models, usually through empirical methods. But both the background papers and discussions at the Symposium emphasized that such generalized models are frequently not helpful in aiding academic progress for particular kinds of students in different educational environments. One especially prominent dimension here was the need to examine the needs and experiences of distinctive populations—defined in terms of race/ethnicity, socioeconomic factors, or intact communities—from a value perspective that explicitly recognizes their authenticity and integrity.

Again, several different dimensions of this topic were apparent:

- **Different definitions of student success.** As noted earlier, some background papers questioned the implicit equation of student success with degree completion (e.g., Kuh et al.; Hearn, Tinto, and Pusser). These doubts about the utility of a single definition of student success were also reflected in Symposium discussions, and numerous alternative definitions were proposed. The simplest expands *attainment* to embrace intermediate outcomes along the path to a degree. For community colleges where few students actually earn an associate’s degree, for example, useful intermediate outcomes might include *transfer ready* status or the acquisition of an array of vocational knowledge and skills that would enable a student to get a new job or earn a promotion.⁶ (Note: “Transfer ready” is considered an outcome by the Graduation Rate Survey of the Integrated Postsecondary Education Data System (IPEDS)). Going further, some participants suggested a taxonomy of student learning outcomes that, if measured, would ensure that any credential that a student earns certifies reaching a particular cognitive standard. Although no agreement on a common list was reached, the kinds of skills identified were typical of such discussions elsewhere—high levels of written and oral communication ability, quantitative and mathematical skills, and critical thinking and problem solving.

Other participants added an array of non-cognitive attributes to this mix of outcomes, including the kinds of “soft skills” valued by employers such as motivation and responsibility, attitudes of tolerance and respect for others, or a continuing motivation to learn. Others called attention to behavioral outcomes like job placement and career mobility, civic and community participation, or cultural pursuits. Some, finally, argued for definitions of student success based on what students themselves are trying to accomplish. All of these alternative definitions of student success may be valuable. We believe that in the light of the current national policy imperative, it is important to temper them with the compelling need for more citizens with college credentials of value to the country’s workforce and citizenry. Whatever the nuances about outcomes that research may propose, we also believe that maintaining the clarity of this policy goal ought to be paramount.

- **Contextualized models.** A second prominent subtheme in this discussion was the limitations of generalized models in examining particularized real-world situations inhabited by different kinds of students. In her response paper, Rendón especially emphasized this point and

⁶ A group of state community college systems is undertaking experimental work to further define and implement several such intermediate attainment measures under the auspices of the Achieving the Dream initiative funded by the Lumina Foundation for Education. Refinement of these measures as a supplement to the Graduation Rate Survey might be a promising line of work for NPEC.

suggested that quite different empirical models—models in which different variables literally exert different kinds and levels of influence for different types of students—might have to be developed and deployed. Similarly, Kuh et al. noted in their background paper that empirical research on the relationship between student outcomes and engagement using the National Survey of Student Engagement (NSSE) was increasingly showing conditional effects: rather than being of equal benefit to all students, higher levels of engagement appear to pay off more for students with weaker academic backgrounds and among African American and Hispanic students. These findings were echoed in discussions at the Symposium as participants called for more fine-grained, contextualized research approaches focused directly on investigating what works for specific combinations of student population, treatment, and setting.

- **Beyond the pipeline.** The image of the educational pipeline and compelling evidence of the nation’s underperformance in getting sufficient numbers of students through high school to a postsecondary degree has been powerful in mobilizing policy attention (NCPPE 2004). While acknowledging the rhetorical power of the “pipeline,” however, Symposium participants cautioned about oversimplification. So another subdimension of the need for more fine-grained research models was recognition of the growing complexity of student progression. Nontraditional paths may include attending multiple institutions, where a clear majority of baccalaureate degree recipients now attend more than one institution (Adelman 2006). They may also include reentry for adults who have not participated in postsecondary education for a long time or ABE and GED participants who never completed high school. And they may involve student participation in a wide range of alternative educational settings, including cooperative and distance education. The existence of these alternative paths suggests the need for sound longitudinal information capable of tracking students across settings and jurisdictions, regardless of who owns or administers the resources or how they are configured. It also underlines the need for research to examine how well particular types of providers serve particular types of students.
- **More detail about educational treatments and experiences.** Other participant discussions at the Symposium noted that most longitudinal studies were not detailed enough with respect to educational treatments and experiences to effectively guide practice. While the national longitudinal studies undertaken by NCS include the kind of transcript-level detail needed to establish relationships between student outcomes and behaviors, few states or systems possess the data needed to undertake detailed studies of the effects of course-taking patterns on student success. Systematic data about student use of support services is even less available, as these services are defined in different ways and data are hard to capture. And even if such data were present, some participants pointed out, states and institutions frequently lack the analytic talent to undertake meaningful programs of local research.
- **Research undertaken from within particular cultural perspectives.** Finally, there was a good deal of discussion at the Symposium of the limitations of existing research approaches in reflecting the distinctive cultural, perceptual, and material realities that affect underserved student populations. Much of this discussion focused on the need to understand the value incongruities and power inequities experienced by students of color in their classroom experiences and in their encounters with faculty and staff from the dominant culture. Further emphasizing the need for greater differentiation and contextualization, moreover, these participants cautioned about mega-grouping members of minority cultures in research studies, when they actually represent a diversity of quite different populations.⁷ Finally, it was

⁷ This was particularly pointed out for Native American students and Hispanics, but is equally true for Asians and to some extent for African American students as well.

emphasized that research on these important cultural differences would be most effective if quantitative research methods were supplemented by anthropological and social psychological approaches.

While most of the points made at the Symposium about the need for more contextualization and fine-grained approaches were applied to research, a set of parallel arguments also apply to policies and practices. Participants argued that rather than being applied uniformly, these need to be carefully differentiated to target particular kinds of outcomes and student populations because the practices that work well in one context may be counterproductive in others. While this need for differentiation in practices directed toward different kinds of students is characteristic of the most effective student retention programs at our institutions, it is considerably less well understood in the policy community. There, the perceived demand for equity across institutions may lead to policies that have quite different effects for different kinds of institutions. This has particular implications for recommendations about using resource allocation mechanisms to influence institutional behavior. As noted by several participants, differences in institutional context and mission may decisively influence the effectiveness of these mechanisms. As a result, more applied research directed toward understanding the most effective ways to avoid the “false equity problem” in state policies would likely be beneficial.

4. Action Research

A final theme at the Symposium concerned the fundamental nature of the research needed to improve student success, and it is the most relevant to NPEC and its mission. The majority of the research reviewed in the background papers was conducted under an established scholarly tradition in which classic *scientific* methods of theory building, hypothesis formulation, and empirical verification are employed. Nowhere is this more apparent than in the Perna-Thomas paper, where only articles appearing in the top refereed journals in the disciplines of economics, education, psychology, and sociology were chosen for review. Research in this tradition involves a search for general effects with the student as unit of analysis and uses sophisticated quantitative analytical techniques to try to isolate patterns of relationships.

Research of this kind is akin to *basic science*. It may ultimately be connected to application through fields like engineering and medicine, but its primary purpose is not to improve practice. Following this analogy, discussions at the Symposium suggest that what is now needed is a more deliberate and systematic approach to clinical research on student success. Action research of this kind is physically located in practice settings and is designed explicitly to test what works and what does not. It is conducted according to the rigorous canons of scholarship and employs sophisticated analytical tools, but it involves practitioners directly in both the formulation of the questions to be addressed and in the conduct of the work itself. Furthermore, its scope is broad enough to investigate questions of implementation and scalability. Given that the basic science on student success is at this point fairly well advanced, the implication is that as we should act on what we know and undertake a deliberate, coordinated program of clinical trials.

Characteristics of this kind of research might include the following:

- **Making a clear distinction between variables that policy can affect and conditions that affect student success, but about which policy can do little.** This distinction was made explicitly by the response paper of Bridget Terry Long and was referenced throughout participants’ discussions at the Symposium. Making this distinction, of course, does not mean that action research should ignore the often decisive effects of demography, socioeconomic

conditions, and culture. But it does mean that such factors are treated explicitly as contextual variables that define the conditions under which particular policies or practices have particular effects for particular kinds of students. One implication of making this distinction, as in clinical trials in medicine, is more serious attention to controlled experimentation or more sophisticated quasi-experimental design. This approach is also consistent with the recommendation advanced by Long that future research try to establish root causes.

- **Focusing on implementation questions.** Tinto's and Pusser's background paper noted the significant gap between what is known through research and the ability of institutional and policy actors to apply this knowledge to make improvements. In his response paper, Bailey similarly argued that the principal gap in our knowledge about how to improve student success is the conditions under which institutions and programs actually will implement appropriate policies and practices. The need for more systematic research on implementation questions surfaced across many of the discussions at the Symposium. One important dimension of this work might concentrate explicitly on how institutions make use of the data on student success that they collect. Another, as suggested by Braxton and Hearn, is to better understand the particular combinations of conditions and incentives that will induce faculty to adopt effective teaching and learning practices. A third, as suggested by Kuh et al., as well as Tinto and Pusser and Braxton, is to investigate more fully the roles of academic leadership and culture in creating institutional environments that support and reward collective efforts to improve student success.
- **Establishing a translation function.** The formats and the settings in which the results of scholarship are disseminated are not conducive to putting these results to work in practical settings. Despite the best efforts of many scholars, the audience for articles in the refereed journals from which Perna and Thomas drew their sample consists only of other academics. Discussions at the Symposium highlighted the need for what might be called a "translation function" to convert the findings of the best research studies into actionable propositions presented in language that practitioners and policymakers can understand. This requires providing not just the evidence, but concrete examples of the kinds of programs and approaches that embody research results and illustrate these more general points. It also requires a mode of presentation that takes as its starting point the practical *problem* to be addressed, not the theoretical hypothesis being tested. To be sure, examples of how this can be accomplished in higher education policy already exist. Perhaps the finest instance is the well-known *Seven Principles of Good Practice in Undergraduate Education* (Chickering and Gamson 1987).⁸ Yet given the extent of what research has established on factors related to student success, more systematic attention ought to be devoted to producing this kind of practice-oriented dissemination.

Action research is regarded as respectable scholarship in such fields as medicine and engineering, but it has yet to become so established in higher education. But as the experience of these fields demonstrates, there is no reason why a deliberate program of applied research cannot be undertaken that embodies the kind of methodological rigor and peer review already typical of scholarly research on student success. NPEC might play a considerable role in moving forward on this agenda.

⁸ Two additional instances are Callan et al. (2006) on the alignment of K–12 and higher education standards, and the Education Commission of the States (1995) on effective state policy to improve the effectiveness of undergraduate education.

5. FOOD FOR THOUGHT

The themes from the previous two sections (act on what we know; intentionality and alignment in goals for student success; deepening the policy research; and moving to action research) emerged consistently throughout the Symposium in the material prepared in advance, in its plenary and breakout sessions, and in discussion sessions. They suggest many areas of subsequent activity to improve student success for the policy and practitioner community, for researchers, and for NPEC.

But despite the high degree of consensus about many aspects of the work on student success, the work that needs to be done will not be advanced as needed unless some additional topics are put on the table. Attention to these topics, we believe, is needed to prompt an alignment of our work on student success with the urgent need for action to meet society's needs for educational output. In this section, we briefly discuss some of these "unmentionables," recognizing that these topics may be controversial within the postsecondary and policy communities. These issues are advanced in the spirit of offering additional food for thought, because we think they deserve sharper attention as we think about better ways to connect research results to public policy.

Focus on strategic problem areas. The national discussion about strategies to increase student success will benefit from much greater clarity about the difference between institutional measures of student success and the larger issue of connecting educational outcomes to society's needs. Discussions about student success continue to be dominated by a focus on what that means within the context of *individual institutions* and for *specific groups of students*. That focus sidesteps the larger issues of what society needs from higher education—whether measured economically, demographically, in terms of workforce needs, or most importantly, in the quality of learning achieved. This extrinsic focus is particularly important, we think, because it is quite possible for individual institutions to be moving in the right directions while aggregate performance falls short.

One aspect of this topic is the debate about whether the United States should move to a federal student unit record data system. Symposium participants emphasized the need to understand the different dimensions of student progress, track overall student progress, reduce performance gaps, and produce better learning. But while there was some agreement on the need, participants came to no consensus about the means that should be used to pursue these goals. In particular, the issue of whether there should be a national student-based unit record system—and if so, what it might look like—was controversial among conference participants.

Proposals for different versions of a comprehensive unit record system have been percolating for the last decade, culminating in 2005 with a feasibility study commissioned by NCES to evaluate how current Integrated Postsecondary Education Data System (IPEDS) surveys might be replaced with a unit record system (see <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005160>). A proposal for a federal unit record data system (not necessarily the same one contemplated by the feasibility study) was subsequently included in recommendations from the Spellings Commission. The pros—and cons—of such a system were referred to periodically throughout the Symposium, but the actual merits or demerits of pursuing this approach were not discussed systematically. The larger questions of which public policy concerns could be addressed through such a system, and whether there might be alternatives that could accomplish the same purpose at lower cost and a higher comfort level, thus remain on the table. The need for engagement on this issue was the recommendation repeated most often in written suggestions from Symposium participants, who were clearly eager to engage the topic.

Learning goals and outcomes. The topic of college student learning, and measures of learning results, was also largely absent from the Symposium beyond the keynote presentations by Bok and Spellings. Except for one session with participants from the American Association of State Colleges and Universities, this topic was alluded to only in the context of assessment of learning and in cautions about standardized tests. But the question of student learning outcomes cannot be dealt with through technical discussions about learning assessments alone. It must instead be grounded in shared understanding about what constitutes appropriate learning goals and expectations. Despite many years of discussion, including the recent focus by the Spellings Commission, there is no consensus as yet among U.S. educators about what kinds and levels of general academic skills—let alone how to measure them—are appropriate for the nation’s college graduates. Work by the Association of American Colleges and Universities (2002) and others suggest that there is a good deal of consensus between the academic and business communities about the general knowledge and skills that should be expected of all college graduates. Still, there is great resistance among many in the postsecondary community about even talking about national learning goals. As a result, the national conversation about goals and measures for U.S. college-level learning seems to be stalled within the academic research community, even as serious proposals to assess learning are moving forward at the federal level, and are common in the international arena (BHEF 2004).

Resource adequacy in relation to student success. Financing, and how spending relates to different dimensions of student success, is basically not on the horizon of research into student success. As noted earlier, Hearn’s summary paper was distinctive among the extensive body of materials prepared for the Symposium in raising the issue of costs. Other than the need to increase student financial aid and complaints about budget cuts, the topic of finance did not come up much in Symposium sessions, except in the final session when we explicitly raised it. There is a long-held presumption in higher education that quality costs money, and that institutions need more of it in order to improve quality. In the light of growing concerns about the quality of learning outcomes despite a 20-year history of steadily increasing spending on higher education until 2005, this issue clearly needs to be researched. Given the urgency of the policy problem presented by the need to significantly increase the numbers of students who attain postsecondary credentials of value and anticipated structural deficits in state budgets and uncertain levels of federal support, questions of cost effectiveness must become paramount. As a result, documenting the costs associated with particular policies and practices—both in experimental situations and at anticipated scaled-up levels—should be an explicit component of future discussion and research. Cost analysis can also help us determine the extent to which significant competitive pressures to engage in discretionary spending for student recruitment, for merit-based aid, for living amenities, and for administrative costs within institutions can be shown to have increased student success on any dimension.

Uses and consequences of improved consumer information. A final topic that we found missing from the discussions at the Symposium is the need to better understand the role of consumer information as it relates to student success. Improved consumer information—for students, for parents and for employers—has become an article of faith among recent policy proposals to improve public accountability in higher education. But it is not clear how better consumer choices will materially address any dimension of student success. And given the place-bound character of attendance decisions in the markets that serve the vast majority of today’s students, it is even less clear that there is much consumer choice in the first place. The past decade has seen a huge growth in different forms of marketing of higher education, particularly to students and parents of students of high school age. More can and should be done to document the types of information that are included in these efforts, to learn which consumers are making use of the information, and to see what the consequences of improved consumer information have been on institutional performance and student success.

6. SUGGESTIONS FOR A NATIONAL STRATEGY

Research and programmatic work related to student success have been episodic. In contrast, the collective message of the Symposium is clear: making a difference will require long-term commitment and sustained effort over many years. For research, this means committing to the establishment of a collective research agenda designed to pursue systematically a few well-defined lines of inquiry. For institutions and states, it means committing to clear goals for student success and establishing aligned policies and practices that will stay in place long enough to make a difference. And at the national level, it means a greater capacity to look at broad patterns across all institutions and to document the relationship between the outputs of higher education and the needs of our society.

While the Symposium produced many ideas for the policy, practitioner, and research communities that would further this strategy, it also yielded some specific lines of work that we believe NPEC might foster or pursue. Some of the most important were the following:

- **Develop publications on the practical applications of research results.** Most of the established avenues for disseminating the results of scholarly research on student success are not accessible to the policymakers and practitioners who need this knowledge to develop and implement good practice. Establishment of a “translation function” that converts established research results into actions and practices that people in the field can utilize would be a valuable addition to the current toolkit for improving student success. This is a function that seems consistent with the mission of NPEC. Such publications would need to be focused, short, and written in language that policymakers and practitioners can understand. Examples of such publications have already been mentioned and can serve as good templates for those envisaged. Several publications series of this kind might be commissioned by NPEC on various topics, while keeping the individual documents within the series focused on a single problem or practice.⁹ Given their direct relationship to increasing the numbers of students successfully negotiating key transitions in the educational pipeline, publications summarizing what is known about the efficacy of mandated basic skills assessment and directed placement in community colleges, and the characteristics of successful first-year experience programs might be attractive candidates. A lot is known through research about these topics, but practice in acting upon this knowledge remains uneven. An actively maintained website might greatly enhance this function by providing cross-references for a growing inventory of documented good practices and their specific grounding in the research literature.
- **Develop a national research agenda on student success.** Research on student success tends to be episodic, and it is also driven by topics that researchers themselves want to investigate. This means that there is no systematic national *program* of research on student success that is comparable to, say, cancer research or research on the human genome. In both of these cases, a systematic agenda is partially a result of external funding. The National Institutes of Health and the National Science Foundation have an interest in wise programs of investment that culminate in a particular set of policy goals. Although funding is more limited, NPEC is well positioned to promote a systematic and comprehensive agenda for a program of action research focused on student success. Establishing such an agenda should involve the academic research community to be sure, but it should also involve voices from the policy and practitioner

⁹ A good example of this approach is the research-based series on effective classroom teaching techniques (e.g., how to run a good discussion, how to structure a group assignment, etc.) authored by K. Patricia Cross and published and widely disseminated by the American Association of Community Colleges.

communities. Just as important, it should include representation from principal external stakeholders for higher education, most notably employers and civic organizations.

Initial ideas about the contents of this research agenda might surface through an NPEC conference focused on converting the themes raised in the Symposium into priority items for an applied research agenda. Once established, some of these projects might be directly underwritten and supported through an RFP process. But because the resources directly controlled by NPEC are limited, consideration should also be given to convening the philanthropic community to determine areas of interest to particular funders, and to make the case for more aligned and longer term commitments of support.

- **Support specific action research projects.** Based on discussions at the Symposium, a case can also be made for NPEC to move more quickly to support some specific applied research projects that demonstrate the core principles of action research noted earlier. Such projects should be designed to involve partnerships between academic researchers and practitioners in the context of a real-world dataset and a problem of compelling interest to policymakers. Projects could be administered and solicited by NPEC directly, or through such a third-party organization as the Association for the Study of Higher Education (ASHE) or the State Higher Education Executive Officers, much as NPEC now helps underwrite research grants offered through the Association for Institutional Research (AIR).

As Bailey pointed out in his reaction paper, states and systems are beginning to amass rich datasets on large numbers of students, but they lack the analytical staffing capacity to use these available resources to investigate important problems related to entry into higher education, placement and remediation, and articulation and transfer. Long's current work using longitudinal data provided by the Ohio Board of Regents provides an excellent example of how such action research partnerships can be established between academic researchers and state agencies, as does the growing body of work being undertaken by the Community College Research Center using state unit record datasets. The key to making such partnerships work is to ensure that researchers are investigating a problem whose parameters have been defined clearly by policymakers and practitioners. The result is a quid pro quo in which the state has multiplied its limited capacity to conduct analyses related to a compelling practical problem, while researchers have access to rich and previously untapped datasets that can enable them to simultaneously test hypotheses of interest to other researchers.

- **Convene more conferences that mix researchers and practitioners.** Many comments we overheard at the Symposium reinforce the conclusion that it was distinctive in the range of participants that it attracted. While conferences like those sponsored by ASHE and AIR involve some policymakers and practitioners, and conferences like those sponsored by national associations attract some researchers, the National Symposium on Postsecondary Student Success was unique in attracting such a broad and high-level mix of both. Experiences of the Symposium vindicate NPEC's decision to move in this direction, and the opportunity should be taken to convene more such gatherings around more focused topics. As noted, one topic might be to begin to flesh out the specifics of a national applied research agenda focused on student success. Others might include more in-depth conversations on establishing better outcomes measures or more accessible and useful longitudinal information resources to track student progress. But NPEC should take heed that the most useful outcome of the Symposium reported by its participants was the ideas and conversations generated among individual researchers and practitioners. The highest numeric rating given by participants responding to the Symposium evaluation was "facilitating discussions about student success" and verbatim

comments emphasize the importance of the individual networking that took place.¹⁰ As a result, future meetings should not only be characterized by more focused attention to particular topics, but should also include more opportunities for formal and informal interaction.

In sum, NPEC has successfully moved in a new and important direction with the National Symposium on Postsecondary Student Success. The summaries of the research literature and the many ideas generated have already proven useful to practitioners and policymakers and demonstrate the potential of concrete collaboration between these communities. The lines of work for suggested for the future sketched above, if pursued, might greatly enhance this potential.

¹⁰ On a 4-point scale, this topic received 3.69; some other items achieved higher ratings but were only answered by a subset of Symposium participants.

References

- Adelman, C. (2006). *The Toolbox Revisited: Paths to Degree Completion from High School Through College*. Washington, DC: Office of Vocational and Adult Education, U.S. Department of Education.
- American Association for State Colleges and Universities (AASCU). (2005). *Student Success in State Colleges and Universities: A Matter of Culture and Leadership*. Washington, DC: American Association of State Colleges and Universities.
- Association of American Colleges and Universities (AACU). (2002). *Greater Expectations: A New Vision of Learning as the Nation Goes to College*. Washington, DC: Author.
- Astin, A.W. (1978). *Four Critical Years*. San Francisco: Jossey-Bass.
- Baer, J.D., Cook, A.L., and Baldi, S. (2006). *The Literacy of America's College Students*. Washington, DC: American Institutes for Research.
- Bok, D. (2006). *Our Underachieving Colleges*. Princeton, NJ: Princeton University Press.
- Business-Higher Education Forum (BHEF). (2004). *Public Accountability for Student Learning: Issues and Options*. Washington, DC: Author.
- Callan, P.M., Finney, J.E., Kirst, M.W., Usdan, M.D., and Venezia, A. (2006). *Claiming Common Ground: State Policymaking for Improving College Readiness and Success*. San Jose, CA: National Center for Public Policy and Higher Education.
- Carnevale, A., and Desrochers, D. (2000). *Crossing the Great Divide: Can We Achieve Equity when Generation Y Goes to College*. Washington, DC: Education Testing Service.
- Carnevale, A., and Fry, R. (2000). *Can We Achieve Equity When Generation "Y" Goes to College?* Washington, DC: Educational Testing Service.
- Chickering, A.W., and Gamson, Z.F. (1987). *Seven Principles for Good Practice in Undergraduate Education*. Racine, WI: The Johnson Foundation.
- College Board. (2006). *Trends in College Costs and Aid*. New York: The College Board.
- Committee for Economic Development. (2005) *Cracks in the Education Pipeline: A Business Leaders Guide to Higher Education Reform*. Washington, DC, Author.
- Desrochers, D. (2005). *Higher Education's Contribution to the Knowledge Economy*. Washington, DC: Committee for Economic Development.
- Education Commission of the States (ECS). (1995). *Making Quality Count in Undergraduate Education*. Denver, CO: Author.
- Ewell, P. (2006). *Making the Grade: How Boards Can Ensure Academic Quality*. Washington, DC: Association of Governing Boards.
- Kuh, G.D., Kinzie, J., Schuh, J.H., Whitt, E.J., and Associates. (2005). *Student Success in College: Creating Conditions That Matter*. San Francisco: Jossey-Bass.

- Leigh Smith, B., MacGregor, J., Matthews, R., and Gabelnick, F. (2004). *Learning Communities: Reforming Undergraduate Education*. San Francisco: Jossey-Bass.
- Martinez, M. (2004). *Meeting the Challenges of Population Growth and the Future Demand for Postsecondary Education*. Denver, CO: Education Commission of the States.
- National Academy of Sciences, National Academy of Engineering, National Academy of Medicine, "Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Future," Washington, D.C.: National Academies, 2006.
- National Center for Education Statistics (NCES). (2005). *A First Look at the Literacy of America's Adults in the 21st Century*. National Assessment of Adult Literacy. Washington, DC: U.S. Department of Education.
- National Center for Education Statistics (NCES). (2002). *Study of College Costs and Prices: 1988–89 to 1997–98*. *Education Statistics Quarterly*, 4(1).
- National Center for Education Statistics (NCES). (2005). *Feasibility of a Student Unit Record System within the Integrated Postsecondary Education Data System*. *Education Statistics Quarterly*, Vols 1 and 2.
- National Center for Public Policy in Higher Education (NCPPE). (2006). *Measuring Up 2006*. San Jose, CA: Author.
- National Center for Public Policy in Higher Education (NCPPE). (2004). *The Educational Pipeline: Big Investments, Big Returns*. San Jose, CA: Author.
- National Science Foundation (NSF). (2006). *Science and Engineering Indicators 2006*. Arlington, VA: Author.
- Organisation for Economic Cooperation and Development (OECD). (2006). *Education at a Glance 2006*. Paris, France: Author.
- State Higher Education Executive Officers (SHEEO). (2006). *State Higher Education Finance 2006*. Boulder, CO: Author.
- U.S. Secretary of Education. (2006). *A Test of Leadership: Final Report of the Secretary's Commission on the Future of Higher Education*. Washington, DC: U.S. Department of Education.

APPENDIX A. LIST OF STUDENT SUCCESS COMMISSIONED PAPERS

Commissioned Papers (available at <http://www.nces.ed.gov/npec/papers.asp>)

Braxton, John M. (Vanderbilt University). *Faculty Professional Choices in Teaching that Foster Student Success.*

Hearn, James C. (University of Georgia). *Student Success: What Research Suggests for Policy and Practice.*

Kuh, George D., Kinzie, Jillian, and Buckley, Jennifer A. (Indiana University Bloomington), Bridges, Brian K. (American Council on Education), Hayek, John C. (Kentucky Council on Postsecondary Education). *What Matters to Student Success: A Review of the Literature.*

Perna, Laura W. (University of Pennsylvania), and Thomas, Scott L. (University of Georgia). *A Framework for Reducing the College Success Gap and Promoting Success for All.*

Smart, John C. (University of Memphis), Feldman, Kenneth A. (SUNY at Stony Brook), and Ethington, Corrina A. (University of Memphis). *Holland's Theory of and Patterns of College Student Success.*

Tinto, Vincent (Syracuse University), and Pusser, Brian (University of Virginia). *Moving from Theory to Action: Building a Model of Institutional Action for Student Success.*

Commissioned Responses (available at <http://nces.ed.gov/npec/responses.asp>)

Alvarado, Donna M. (Aguila International). *Postsecondary Success and Pluralism: A Call for Systemic Coherency.*

Bailey, Thomas R. (Columbia University). *Research on Institution Level Practice for Postsecondary Student Success.*

Demmert, William G. (Western Washington University). *A Native American Response: Why Do Colleges and Universities Fail the Minority Challenge?*

Long, Bridget Terry (Harvard University). *Using Research to Improve Student Success: What More Could Be Done?*

Rendón, Laura I. (Iowa State University). *Reconceptualizing Success for Underserved Students in Higher Education.*

Richardson, Earl S. (Morgan State University). *Promoting Broad Access and Student Achievement: A Test of the Public Will.*

Robertson, Piedad F. (Past President, Education Commission of the States). *Student Success and Faculty Investment.*

APPENDIX B. AUTHORS' BIOGRAPHIES

Peter Ewell

Peter Ewell is Vice President of the National Center for Higher Education Management Systems (NCHEMS), a research and development center founded to improve the management effectiveness of colleges and universities. A member of the staff since 1981, Dr. Ewell's work focuses on assessing institutional effectiveness and the outcomes of college, and involves both research and direct consulting with institutions and state systems on collecting and using assessment information in planning, evaluation, and budgeting. He has directed many projects on this topic, including initiatives funded by the W. K. Kellogg Foundation, the National Institute for Education, the Consortium for the Advancement of Private Higher Education, and the Pew Charitable Trusts, and is currently a principal partner in the Pew Forum on Undergraduate Learning. In addition, he has consulted with over 375 colleges and universities and 24 state systems of higher education on topics including assessment, program review, enrollment management, and student retention. He has also been actively involved in NCHEMS work on longitudinal student databases and other academic management information tools. Prior to joining NCHEMS, Dr. Ewell was Coordinator for Long-Range Planning at Governors State University. A graduate of Haverford College, he received his Ph.D. in Political Science from Yale University in 1976 and was on the faculty of the University of Chicago. In addition to consulting in higher education, Dr. Ewell has been involved in program evaluation, organizational development and strategic planning for a variety of nonprofit and arts organizations including the National Endowment for the Arts and six state arts agencies. In 1981, he received the National Theater Association Award for Theory and Criticism.

Jane V. Wellman

Jane Wellman is the Executive Director of the Delta Project on Postsecondary Costs, Productivity and Accountability, a nonprofit research and policy organization located in Washington, D.C. The Delta Project's mission is to improve productivity in higher education through more effective management of resources in relation to student access and institutional quality. Ms. Wellman is widely recognized for her work in public policy and higher education, at both the state and federal levels, with particular expertise in state fiscal policy, cost analysis, strategic planning, state and federal regulation of higher education, accountability metrics and performance reporting, and quality control including accreditation. In addition to research and writing, she consults with national and international organizations including the Association of Governing Boards, the American Council on Education, the National Governors Association, the U.S. Secretary of Education, and the Organisation for Economic Cooperation and Development. Prior to beginning the Delta Project in 2007, Ms. Wellman served as a Senior Associate with the Institute for Higher Education Policy in Washington, D.C., was Vice President for Government Relations with the National Association of Independent Colleges and Universities, Deputy Director of the California Postsecondary Education Commission, and staff director of the California Assembly Ways and Means Committee. She began her career in higher education finance and planning at the University of California Office of the President, and obtained her graduate and undergraduate degrees from UC Berkeley.

**APPENDIX C:
ROSTER OF NPEC EXECUTIVE COMMITTEE AND
STUDENT SUCCESS SYMPOSIUM PLANNING WORKING GROUP MEMBERS**

- | | | |
|--|--|---|
| <p>†*Edward O. Blews, Jr.
Chair, NPEC Executive Committee
President, Association of Independent Colleges and Universities of Michigan</p> | <p>†*Antonio Flores
President and CEO
Hispanic Association of Colleges and Universities</p> | <p>† Carol Rookstool
Dean of Academic Development
Fashion Institute of Design and Merchandising</p> |
| <p>†*Trudy Banta
Senior Advisor to the Chancellor for Academic Planning and Institutional Improvement
Indiana University-Purdue University Indianapolis</p> | <p>† Carol Fuller
Consultant, Higher Education
Data Policy Committee
Association for Institutional Research</p> | <p>* Mary Sapp
Assistant Vice President
Planning and Institutional Research, University of Miami</p> |
| <p>†*Julie Davis Bell
Education Program Director
National Conference of State Legislatures</p> | <p>†*Roslyn Korb
Program Director
Postsecondary Cooperative Programs, Analysis and Dissemination Program
National Center for Education Statistics</p> | <p>†*Dawn Geronimo Terkla
Executive Director
Institutional Research
Tufts University</p> |
| <p>† Barbara Beno
President
Accrediting Commission for Community and Junior Colleges</p> | <p>† Wynetta Lee
Executive in Residence
Jackson State University</p> | <p>† Frank Thompson
Chairman
Gulf Coast Workforce Board
The Worksource</p> |
| <p>†*Trudy Bers
Executive Director of Institutional Research, Curriculum, and Strategic Planning
Oakton Community College</p> | <p>†*Fred Lillibridge
Campus Institutional Effectiveness and Planning Officer
Doña Ana Community College</p> | <p>† Jack Warner
Commissioner of Higher Education
Rhode Island Board of Governors for Higher Education</p> |
| <p>† Ruth Burgos-Sasscer
Chancellor Emeritus
Houston Community College System</p> | <p>† David Longanecker
Executive Director
Western Interstate Commission for Higher Education</p> | <p><u>NCES Staff</u></p> <p>Nancy Borkow
NPEC Project Officer
NCES</p> |
| <p>† Samuel Cargile
Senior Director of Grantmaking
Lumina Foundation for Education</p> | <p>† Cecilia López
Vice President of Academic and Student Affairs
Harold Washington College</p> | <p>Michelle Coon
Statistician
NCES</p> |
| <p>† Dennis Carroll
Associate Commissioner
Postsecondary Studies Division
National Center for Education Statistics</p> | <p>† Patricia McGuire
President, Trinity University
(Washington, DC)</p> | <p><u>NPEC Staff</u></p> <p>Patricia Maloney
NPEC Coordinating Director</p> |
| <p>† Gary Cox
President, Association of Independent Kentucky Colleges and Universities</p> | <p>† Virginia Moreno
Director of Assessment
Office of Academic Affairs
The City University of New York</p> | <p><u>Consultants/Contractors</u></p> <p>Brenda Albright
NPEC Consultant
Franklin Education Group</p> |
| <p>† Wilhelmina Delco
Chair, Board of Trustees
Huston-Tillotson University</p> | <p>† Michael Nettles
Senior Vice President and Edmund W. Gordon Chair of Policy Evaluation and Research
Educational Testing Service</p> | <p>Denise Glover
Senior Study Director
Westat</p> |
| <p>† Judith Eaton
President, Council for Higher Education Accreditation</p> | <p>† Mark Putnam
Chief Planning Officer, Office of University Planning and Research
Northeastern University</p> | <p>James Hearn
Professor of Higher Education
University of Georgia</p> |
| | | <p>Grace Lo
Senior Conference Planner
Westat</p> |
| | | <p>Hans L'Orange
Director, SHEEO/NCES Network,
State Higher Education Executive Officers</p> |