

PLANNING

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RESEARCH ARTICLE

Reduce Curriculum Costs While Increasing Student Enrollment

Optimizing Academic Balance Analyses Let Kentucky Institutions Stay Competitive

by Kenneth L. Hoyt

Results of the study supplied evidence needed to support tough institutional decisions. The 13 Kentucky colleges and universities that participated in the research now have critically important data to use in making choices about how they best serve their students, maximize scarce resources, and sustain financial stability.

A FOLLOW-UP

An introduction to the Optimizing Academic Balance process and early results of the research were published in the 2015 *Planning for Higher Education* article, “Reshaping Your Curriculum to Grow the Bottom Line,” <https://www.scup.org/resource/reshaping-your-curriculum-to-grow-the-bottom-line/>. The current article, with final research data, represents the study’s wrap-up report.

Introduction

Kentucky colleges and universities had been looking for ways to reduce their academic costs and increase their student enrollments. Addressing those objectives was the focus of Optimizing Academic Balance (OAB), a process that generated the findings of the detailed report that informs this article. The groundbreaking OAB research is the only multi-college, statewide project of its type conducted to analyze academic costs. The James Graham Brown Foundation, which provided a grant to the Association of Independent Kentucky Colleges and Universities, supported the project.



The total impact of the entire OAB analysis for the 13 AIKCU participants has the potential to produce \$37.9 million in bottom-line improvements.

What is Optimizing Academic Balance and How Does it Work?

Many colleges were facing tough financial choices and required the means to improve their bottom line. OAB provided colleges and universities with never-before-available, effective tools to use in making tough financial choices and crucial academic decisions needed to stay competitive in the student market. The OAB analysis was completed in the context of institutional mission, program quality, market potential, cost, and revenue.

An OAB:

- Examines the cost and long-term viability of each academic major and general education
- Identifies opportunities for enrollment growth or expansion
- Recognizes areas where costs may need to be contained or reduced
- Provides knowledge that planners may use to redirect scarce resources to increase enrollment, maximize the value of the curriculum, and strengthen institutional viability

OAB utilizes market potential data (admissions inquiries; number of applicants; number of admitted

students; and numbers of enrolled students, juniors, and graduates) to measure demand for an institution's academic offerings. It uses student credit hours (SCH) generated by programs as a proxy for revenues and the direct (faculty and departmental) costs for teaching each program. OAB may be applied to all academic program offerings: undergraduate, graduate, and non-traditional.

Figure 1 demonstrates market potential data, using sample results from a liberal arts and professional studies college.

Kentucky Independent Colleges and Universities

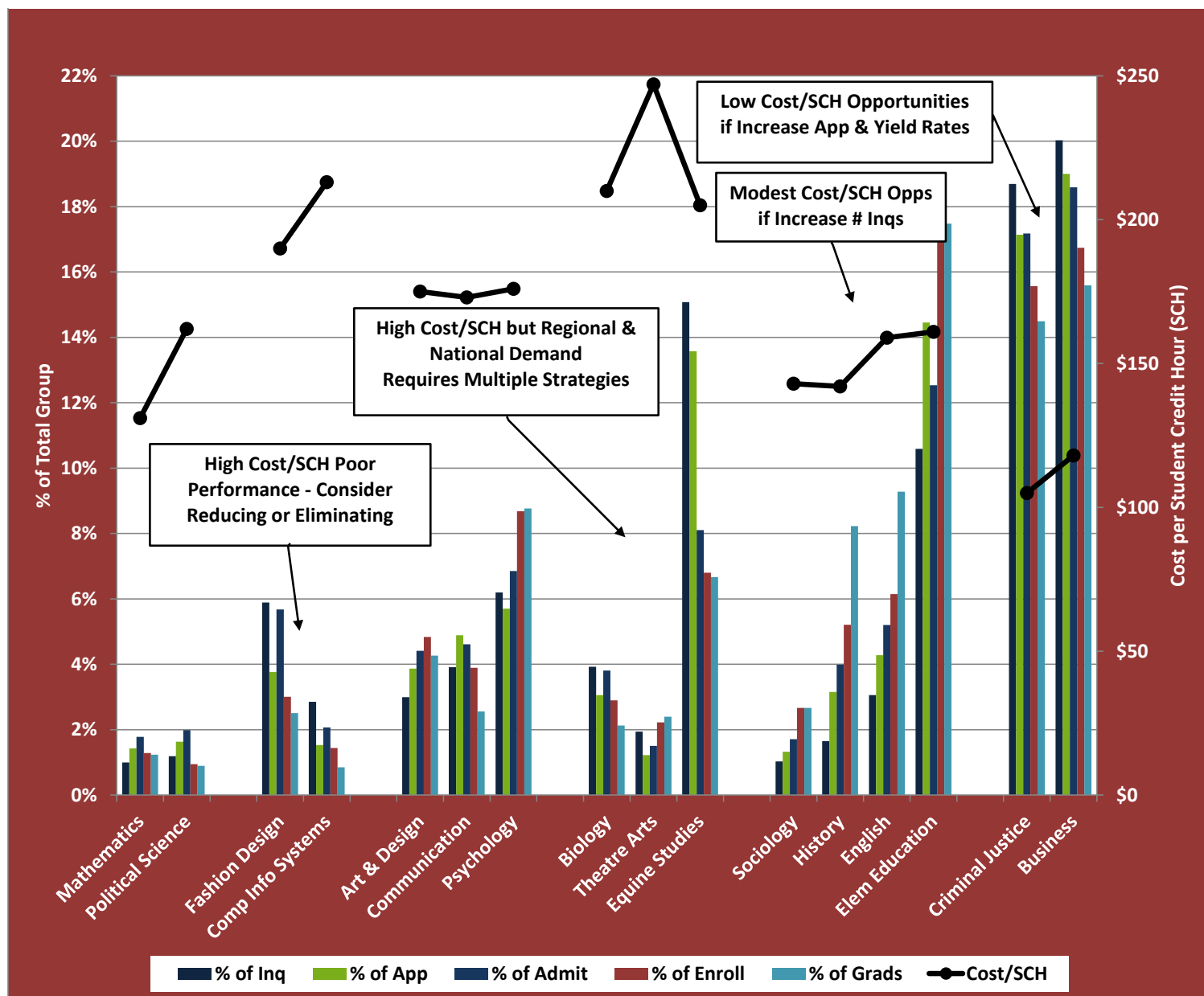
With study results, Kentucky's independent colleges and universities that are members of the Association of Independent Kentucky Colleges and Universities (AIKCU) were able to compare their costs and performance for the first time with that of other private institutions across the Commonwealth. That was the outcome of the OAB analysis that produced data-based tools that colleges and universities could rely on to guide strategic decision-making and the use of scarce resources.

The analysis, "Optimizing Academic Balance: Mission, Quality, Market Potential, Cost, and Revenue," gave college leaders critical information as they worked to provide programs and services for thousands of students in Kentucky. It provided fact-based, college-specific insights that the leaders could consider as they addressed such key questions as:



- How can you be sure you are making the right decisions on programs and majors to attract and retain more students?
- What is your institution spending on specific majors, and how does that compare to similar colleges and universities?
- What majors are working well for students and that lead to graduation?
- What innovations might help make your college more competitive and improve its bottom line while sustaining unique values and mission?

Figure 1 Optimizing Academic Program Balance at Sample College



A Backstory

For the past three years, 13 of the 18 AIKCU members had been engaged in compiling existing data, reviewing results, and determining what strategic changes could be made to improve the efficiency and productivity of their academic programs.

The result was an academic cost analysis that gave the participating Kentucky institutions the ability to compare the cost of delivering their individual programs with the cost of their peer institutions doing the same. It also gave each college specific information on academic majors that had the potential to grow and attract more students, generating additional revenue; majors with issues affecting students' success; and majors that could be scaled back or eliminated to reduce costs. The combined results from all colleges

that took part in the analysis include the following findings, while figure 2 shows the bottom-line impact across all participating institutions.

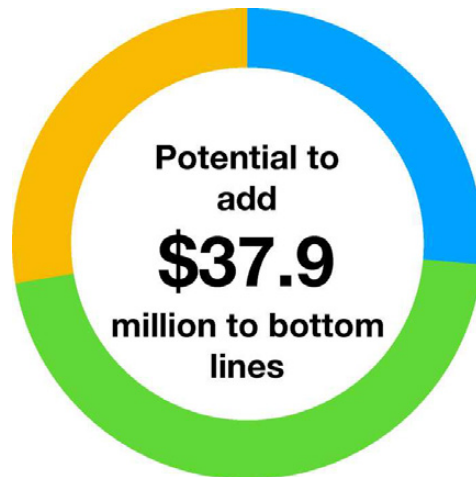
- More than 120 academic majors at Kentucky's independent colleges and universities had the potential to grow to meet the needs of more students and generate more revenue.
- Many of the challenges the institutions faced in ensuring student success could be addressed, resulting in more students graduating and producing more revenue for the institutions to provide programs, services, and financial aid.
- Very few majors needed to be reduced or eliminated to cut costs.
- Collectively, the institutions had the potential to add \$37.9 million to their bottom lines.

Figure 2 **Bottom-Line Impact across All Participating Institutions**

STUDENT SUCCESS:

\$10.5 million

Identified 42 programs with student success issues. Assuming each lost student costs \$25,000 (net tuition revenue + recruitment costs + financial aid provided), retaining an additional 10 students per program could recapture \$10.5 million/yr.



COST REDUCTIONS:

\$10 million

33 programs have potential to reduce costs; 4 were recommended dropped. Combined cost reductions could result in savings of \$10 million/yr.

GROWTH POTENTIAL: \$17.4 million

124 programs show potential to grow enrollment. If each of these programs grew by 10 students, it could generate an additional \$17.4 million/yr. in net tuition revenue.



Figure 3 Example of the Revenue Potential for a Typical College, Based on the Average across the 13 Participating Institutions

STUDENT SUCCESS:
\$750,000
3 programs improve student success & retain 10 more students each = \$750,000 savings/yr.



COST REDUCTIONS:
\$900,000
3 programs could reduce costs for \$900,000 in total savings.

GROWTH POTENTIAL: \$1.4 million
10 programs show potential to grow enrollment. If each of these programs grew by 10 students it could generate an additional \$1.4 million/yr. in net tuition revenue.

The Facts to Face the Challenges

Kentucky's independent colleges and universities faced the same challenges as other independent institutions across the nation: They worked to control costs and make higher education more affordable, maintain academic quality, and improve productivity. In many cases the institutions had a particular interest in pursuing innovations and growth while upholding the values and missions that had historically guided their work.

Making the best decisions to address those challenges required more than anecdotal evidence. Reliable data were the key. But that strategic decision-making tool had not been previously available in a way that could help the colleges identify and quantify their successes, as well as pinpoint areas within their institutions that could perform better. The OAB analysis changed that, helping institutions align their mission, quality, market potential, cost, and revenue in support of increased enrollment and improved graduation rates.

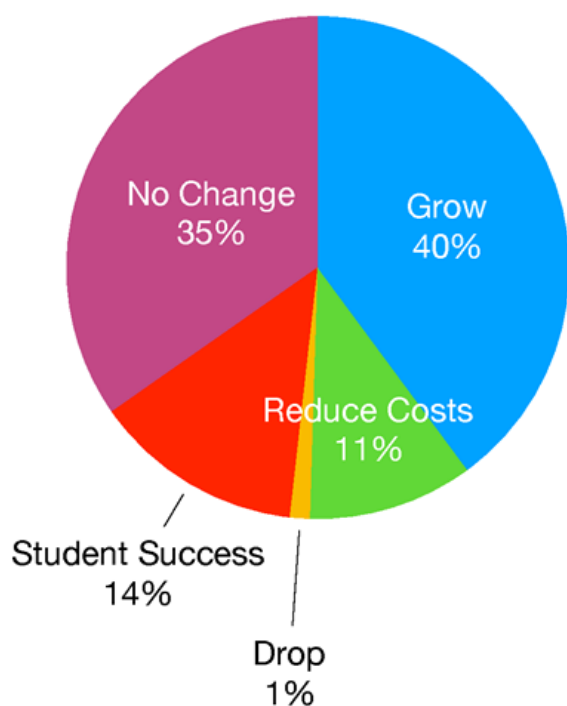
How colleges and universities would choose to use the benchmarking data would be unique to each institution and its particular circumstances.

However, getting to that point of alignment required extensive work by institution leaders, faculty, and staff to provide the information that was necessary to ensure an effective and reliable data-collection and data-assimilation process. For example, determining demand and market potential by academic major required collecting five years of performance

data on admission inquiries, applicants, admitted students, and enrolled students. The numbers of junior-year students and graduates by major were used to measure student success. Detailed course information, ranging from credit hours to numbers of students enrolled in courses to faculty workload, was compiled. Costs were determined using faculty salaries and benefits, departmental costs, adjunct faculty stipends, and other factors.

The analysis evaluated a total of 311 academic majors at the 13 participating colleges. Figure 4 details key findings and lessons learned by administrators at AIKCU institutions.

Figure 4 Evaluation of 311 Total Majors

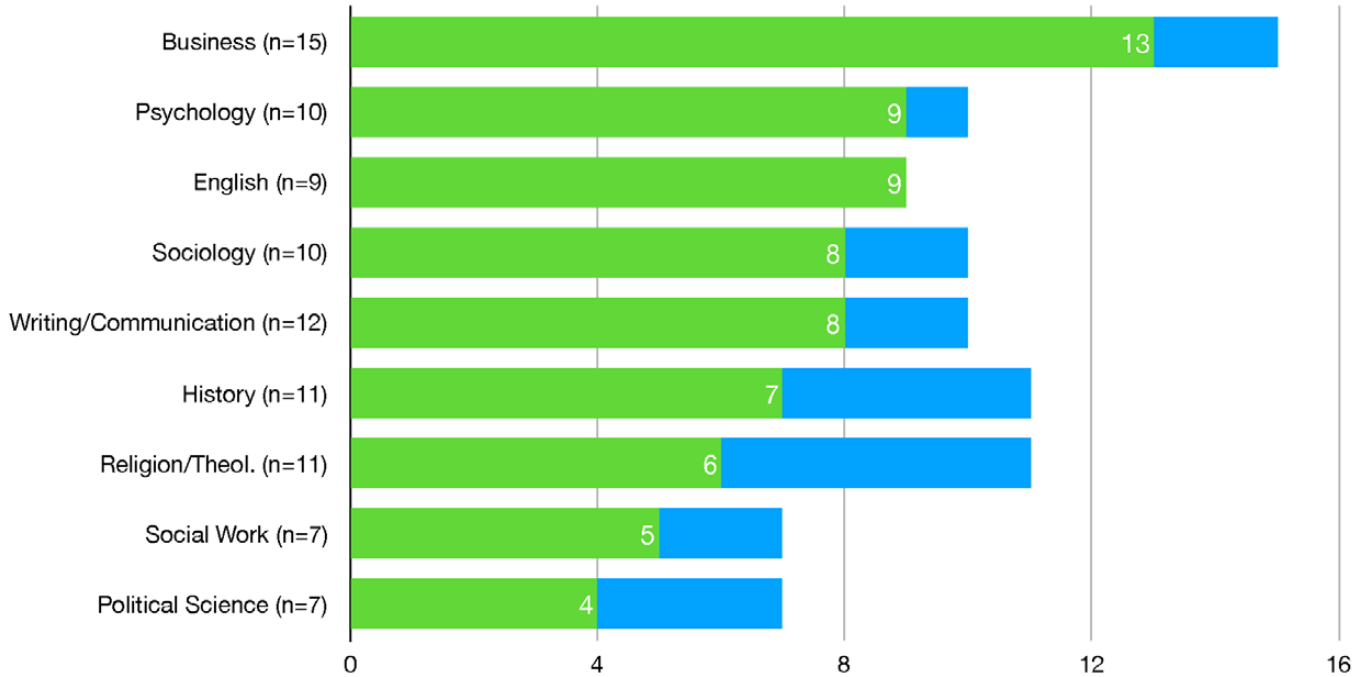


- 35% (n=108) major working well, no change recommended
- 40% (n=124) potential to grow
- 14% (n=42) need to address student success issues
- 11% (n=33) need to reduce costs
- 1% (n=4) recommended majors dropped

Figure 5 demonstrates academic programs that had high opportunities for growth relative to totals. It is

notable that traditional liberal arts programs had some of the greatest growth potential.

Figure 5 Programs with High Opportunities for Growth (Green) Relative to Totals



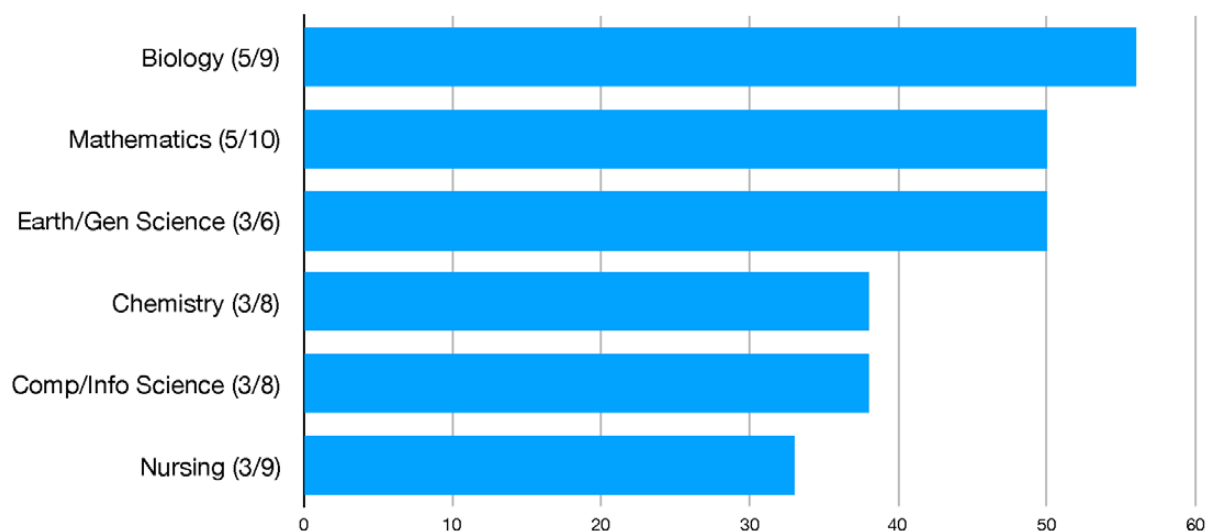
Most colleges that completed an OAB analysis found that they had academic programs where the level of admissions inquiry was low, but the number of juniors and graduates indicated an opportunity to grow the enrollment. Some majors had high levels of inquiry but low levels of juniors and graduates, indicating that the major had student success issues that often could be improved, or, if necessary, the major could be cut back or eliminated.

Student success, as shown in figure 6, was determined by the number of students that had enrolled in a certain major and continued through their junior year and graduation with that same major. Success issues were those that prompted students to change a particular course of study or withdraw from the institution.



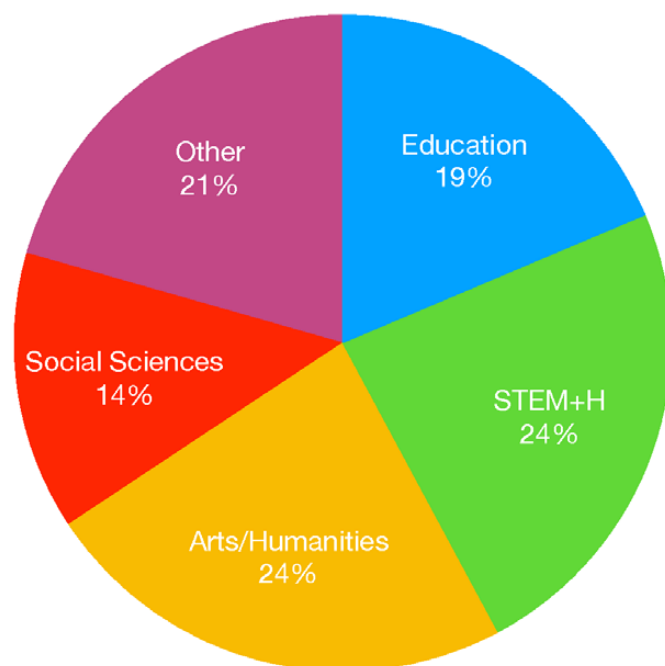
The OAB analysis offered reliable data that the institutions could use to guide their strategic decision-making and use of resources.

Figure 6 Student Success Issues Prevalent in STEM+H Majors (as a Percentage of Total Programs Assessed in That Area)



Researchers found that the finding that costs should be reduced in a relatively small percentage of academic majors, as depicted in figure 7—or that very few majors should be dropped altogether—was evidence that the colleges were already operating efficiently.

Figure 7 Cost Reductions by Program Type (33 Programs Identified for Cost Reductions; 4 Recommended to Be Dropped)



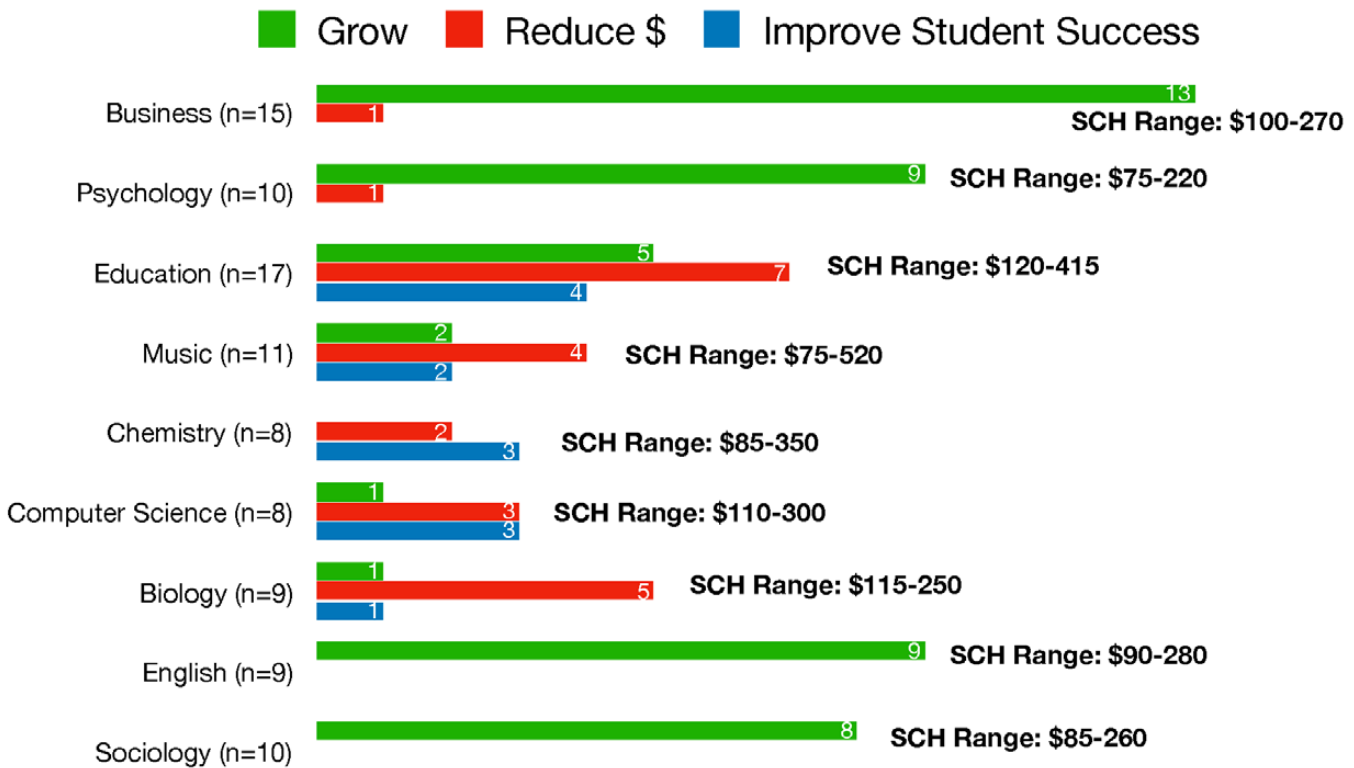
The Key to a Strategic Approach

The OAB analysis offered reliable data that the institutions could use to guide their strategic decision-making and use of resources. It provided detailed, comparative information on demand, costs, and student outcomes. Additionally, and perhaps most important to the participating institutions, each college or university received a customized, confidential report that included:

- Market demand potential
- Student credit hours generated by academic major
- Costs and revenue generated by academic major
- A focused set of recommendations regarding which academic offerings represented growth opportunities based on market potential, which programs were unlikely to attract more students, and possible programs that could be reduced or eliminated
- Academic major cost comparisons with other independent Kentucky institutions

Figure 8 shows an example of a report that was distributed to a participating college or university.

Figure 8 Common Programs with Recommendations



A Figure 8 Report Legend

- Green bars indicate a selection of the 124 programs with the potential to grow in enrollment. *Recommendation: If each of the 124 majors grew by only 10 students, that would produce \$17.4 million additional net tuition revenue.*
- Blue bars indicate a selection of the 42 majors with student success issues, e.g., students declaring another major or withdrawing from the college. Each student lost came at a cost of \$25,000. *Recommendation: If 10 students were retained in each program, it would result in \$10.5 million of opportunity cost regained.*
- Red bars indicate a selection of the 33 programs where costs could be reduced; it was suggested that 4 programs be dropped. *Recommendation: Reducing costs similar to comparable programs would result in an annual savings of \$10 million.*

Projections

Across all 13 AIKCU institutions, the average number of programs with potential for growth was 10, the average number of programs with student success issues was 3, and the average number of high-cost programs was 3. Therefore, a typical institution could potentially realize 1) a growth of 10 additional students in its 10-growth programs for an amount of increased revenue of \$1,400,000; 2) retention of an additional 10 students in each of its 3 programs identified with student success issues for an additional cost savings of \$750,000; and 3) reduction of costs in its 3 high-cost programs for savings on average of \$900,000.

If all three of those strategies were implemented simultaneously, a typical AIKCU institution could realize a total bottom-line impact of \$3,050,000.

The work, when viewed across the participating institutions as a group, offered a previously unavailable look at the range of costs and opportunities of different majors that the institutions offered.

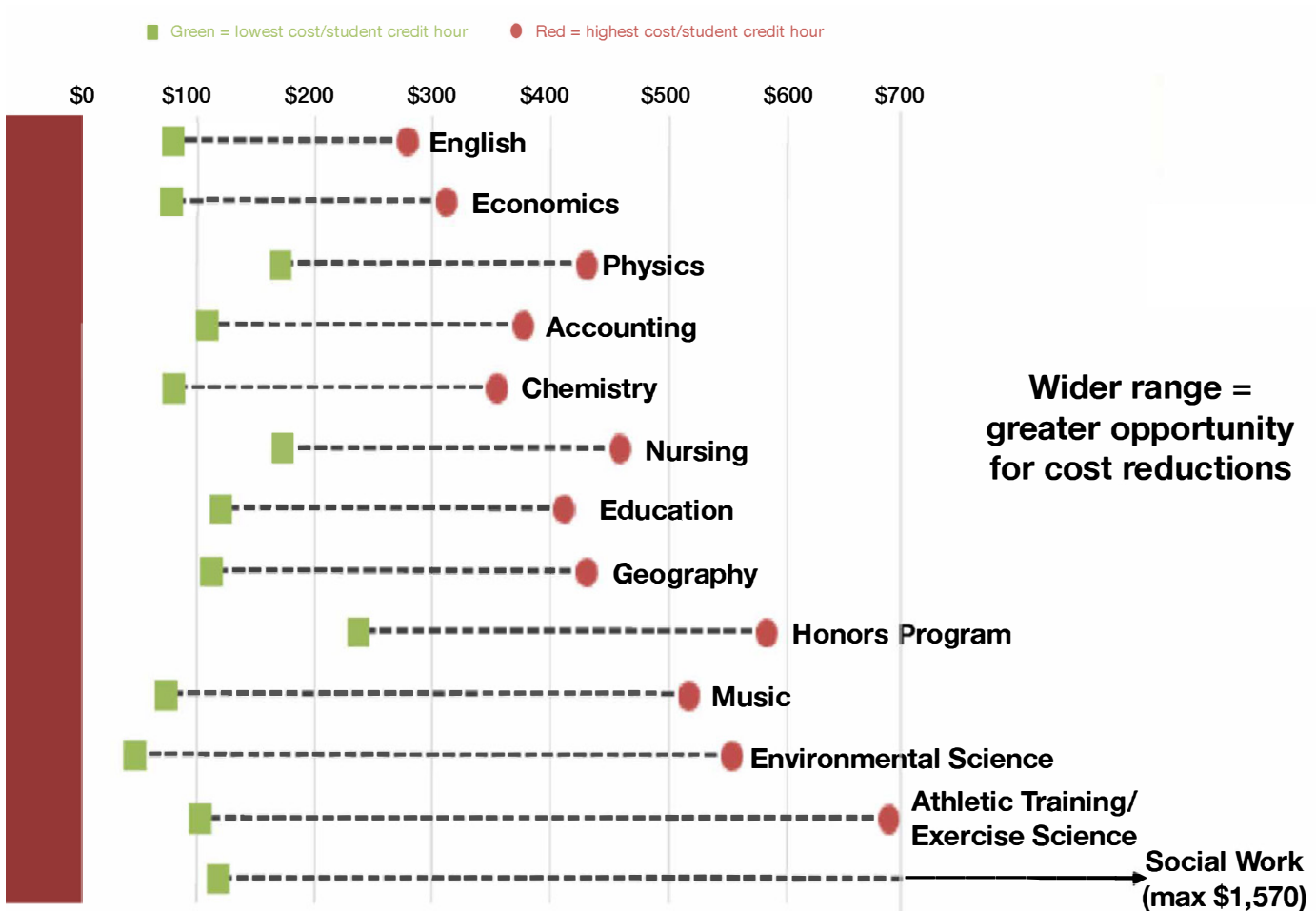
Addressing Varying Program Costs

With the OAB analysis, participating institutions had gained a barometer—a way of measuring how their program costs compared to their peers. Figure 9 illustrates the largest range of costs found among the colleges and universities for different majors.

A number of factors had contributed to the varying costs. For example, specialized accreditations increased costs, longer-serving faculty members had higher salaries, and some programs required more financial support because they were designated as centers of excellence. And where there was no apparent reason for a particular institution's higher expenditures, the OAB analysis provided the tools that enabled a college to conduct a deeper review of possible changes that could reduce costs.



Figure 9 Range of Total Cost Per Student Credit Hour (SCH)
 (Majority of programs have ranges <\$150 and are not shown.)



Conclusion

When the detailed, individualized findings of the analysis became available, the colleges were in a position to use the data as part of their strategic planning. They could identify opportunities for growth, compare costs with other institutions, recognize programs where changes could produce more revenue, and identify other key elements to

improve their competitive position and strengthen their bottom line. The OAB report was given to the institution presidents, who would then decide how to present and use the findings on the individual campuses. The analysis had not made recommendations for specific actions. Rather, it provided the foundation for decision-making that would be based on facts and actual results.

How colleges and universities would choose to use the benchmarking data would be unique to each institution and its particular circumstances. They could choose from a range of options based on the analysis that was specific to their institution. Examples included:

- Continuing a program without changes
- Investigating why their program costs were greater than those of their peer institutions
- Addressing student success issues in selected academic majors

- Engaging faculty in strategic academic decisions
- Selecting which majors the institution would choose to grow to increase its financial standing

By strengthening their bottom line, Kentucky's independent colleges and universities would be able to expand their services, financial aid offerings, and the support they could provide to ensure greater opportunities for more students to obtain a quality higher education.

Author Biography



KENNETH L. HOYT, PHD, is founding principal and president of The Higher Education Practice, LLC. He has a 30-year career in higher education, having served as president of Centenary College of New Jersey, president of The Ohio Foundation of Independent Colleges, Inc., vice president for The University of Akron, and in various leadership positions at Otterbein College and Baldwin-Wallace College. He holds a PhD in higher education administration and leadership from Ohio University, an MA in journalism/PR from The Ohio State University, and a BA in business administration/marketing from Baldwin-Wallace College.

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