Student Success Is Everyone’s Responsibility

D. Christopher Brooks
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INSTITUTIONS' USE OF DATA AND ANALYTICS FOR STUDENT SUCCESS

Results from a National Landscape Analysis

Amelia Parnell, Darlena Jones, Alexis Wesau, and D. Christopher Brooks
Improving Institutional PERFORMANCE through IT-Enabled INNOVATION

By William H. Graves

In its report Dismantling America the National Innovation Initiative (NII) calls for an "innovation infrastructure" as the foundation for the nation’s future productivity and competitiveness. The report notes “innovation generates the productivity that economists estimate has accounted for half of U.S. GDP growth over the past 50 years. ... It’s not only about offering new products and services, but also improving them and making them more affordable.” Through the NII did not ignore nonprofit organizations and even targeted the nonprofit health care industry, the report is erroneously silent on any need for innovation and its byproduct, productivity in higher education. In contrast, the National Commission on Accountability in Higher Education (NCACHE) called attention to its final report by proclaiming "improved accountability for better results is imperative, but how to improve accountability in higher education is not so obvious." I agree that improved accountability in higher education is imperative, but I take issue with the second part of the NCACHE’s conclusion: the way to improve accountability in nonprofit higher education is clear by now. The key, as indicated by the NII, involves productivity-increasing innovation, and recent systemic increases in productivity in the national global economy have depended on using information technology to redesign production and service processes. Higher education also can use IT innovatively to redesign academic and administrative services for improved effectiveness and efficiency. Two proven innovation strategies are the common-core redesign strategy and the flex program and service redesign strategy. These strategies use IT innovatively to improve accountability—what is to improve and account for institutional performance—whenever measurably improved academic results and reduced unit costs are simultaneous goals.”

William H. Graves is Senior Vice President for Academic and Information Technology at York College, Inc., and Professor Emeritus, University of North Carolina at Chapel Hill.
Figure 2. Technical and Organizational Infrastructures

Technology Infrastructure
- Basic systems: networks, security, ERP, CMS, etc.
- 24x7x365 support for all users
- Systems integration

Information Infrastructure
- Unified data
- Single-login authentication
- Self-service Web portal

Analytics Infrastructure
- From data to analysis to action
- Prioritizing performance initiatives
- Nimble governance & decision-making

Innovation Infrastructure

Path to Improved Performance
Key Findings

Academic Analytics: The Uses of Management Information and Technology in Higher Education

Philip J. Goldstein

Producing meaningful, accessible, and timely management information has long been the holy grail of higher education administrative technology. The last decade has seen institutions make substantial investments in enterprise computing infrastructure to meet this goal. But have we met it? Our information systems produce many reports, but are we getting the information we need?

The pressure to provide management information is growing. Our institutions are resource-constrained and must often choose from among competing priorities. Most institutions are under intense pressure to maximize student retention and shorten time to graduation. Institutions are increasingly using the information they accumulate about their students to gain insights into big issues, such as academic performance, student success, persistence, and retention. Regulatory bodies, accreditation bodies, state agencies, and boards all are asking for more information to measure and evaluate the effectiveness of our institutions. Decreases in state aid to higher education are causing many public institutions to pursue alternative revenue streams. Each of these issues is increasing the demand for information. How successful are we at providing the information? If we provide it, is it usable? In short, are the investments we have made to improve our information infrastructure making a difference to our institutions?
Student success (IPAS) change-management involvement (2014)
Student success (IPAS) project committee & end-user participation
Concerns about the growing use of student success tools (2014)

<table>
<thead>
<tr>
<th>Concern</th>
<th>Major concern</th>
<th>Moderate concern</th>
<th>Minor concern</th>
<th>Not a concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overloaded faculty will resist learning/using new IPAS systems.</td>
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<td></td>
<td></td>
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<tr>
<td>Faculty won’t see value in IPAS systems and will not use them very much.</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>New IPAS systems and data sources will create integration challenges and add complexity.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IPAS systems may trigger demand for in-person advising, counseling, etc., that we can’t meet.</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Overloaded staff will resist learning/using new IPAS systems.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Data will be misused; wrong conclusions</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students crave a personal touch that IPAS technology can’t deliver.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student’s won’t see value in IPAS systems and will not use them very much.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individuals’ privacy rights will be breached.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>faculty and staff advisement, counseling, etc.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

0%  50%  100%
Student evaluation of student success tools, 2018
Faculty evaluation of student success tools, 2017

- **Not useful**
  - Students
  - Faculty

- **Moderately to extremely useful**
  - Faculty
  - Students

**Tools**

- Academic resource suggestions
- Early-alert systems
- Course suggestions
- Performance improvement suggestions
Priority of analytics (2015)
Motivation for investing in analytics (2015)
Responsibility for analytics services (2015)
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Amelia Parnell, Darlena Jones, Alexis Wesau, and D. Christopher Brocks
Figure 1. Institutions' Goals for Conducting Student Success Studies ($N = 389$)

- Improved student outcomes from interventions: 96%
- More efficient delivery of programs or services: 71%
- Elimination/reduction of programs shown to not contribute significantly to student success: 39%
Table 2. Percentage of Institutions That Measure Costs and Outcomes of Student Success Studies

<table>
<thead>
<tr>
<th></th>
<th>Costs</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Descriptive (N = 272)</td>
<td>Predictive (N = 265)</td>
</tr>
<tr>
<td></td>
<td>60%</td>
<td>58%</td>
</tr>
<tr>
<td>Never/rarely</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat</td>
<td>31%</td>
<td>29%</td>
</tr>
<tr>
<td>To a great extent</td>
<td>10%</td>
<td>12%</td>
</tr>
<tr>
<td>Total</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Descriptive (N = 265)</td>
<td>Predictive (N = 254)</td>
</tr>
<tr>
<td></td>
<td>28%</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>47%</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td>23%</td>
<td>24%</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Note. Percentages may not total to 100% due to rounding.
<table>
<thead>
<tr>
<th>Student pipeline</th>
<th>First-year students</th>
<th>Sophomores</th>
<th>Transfer-in students</th>
<th>Student athletes</th>
<th>Students of color</th>
<th>LGBTQIA students</th>
<th>Nontraditional students</th>
<th>First-generation students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>85%</td>
<td>28%</td>
<td>58%</td>
<td>27%</td>
<td>48%</td>
<td>5%</td>
<td>33%</td>
<td>44%</td>
</tr>
<tr>
<td>Academic progress and success</td>
<td>82%</td>
<td>53%</td>
<td>56%</td>
<td>39%</td>
<td>58%</td>
<td>9%</td>
<td>39%</td>
<td>54%</td>
</tr>
<tr>
<td>Efficiency of degree completion</td>
<td>68%</td>
<td>45%</td>
<td>38%</td>
<td>19%</td>
<td>35%</td>
<td>7%</td>
<td>27%</td>
<td>32%</td>
</tr>
<tr>
<td>Career pathways and postgraduation outcomes</td>
<td>56%</td>
<td>32%</td>
<td>45%</td>
<td>21%</td>
<td>41%</td>
<td>7%</td>
<td>30%</td>
<td>39%</td>
</tr>
<tr>
<td>Student ability to afford higher education</td>
<td>48%</td>
<td>29%</td>
<td>30%</td>
<td>12%</td>
<td>23%</td>
<td>5%</td>
<td>22%</td>
<td>28%</td>
</tr>
</tbody>
</table>
Table 5. Collection, Integration, and Use of Data in Student Success Studies (N varies)

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Institution does not collect usable data</th>
<th>Data are collected but not integrated</th>
<th>Data are systematically collected and integrated</th>
<th>Data are systematically collected, integrated, and used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student information system data</td>
<td>2%</td>
<td>25%</td>
<td>42%</td>
<td>31%</td>
</tr>
<tr>
<td>Institutional business</td>
<td>20%</td>
<td>48%</td>
<td>21%</td>
<td>11%</td>
</tr>
<tr>
<td>Systems-level data</td>
<td>28%</td>
<td>42%</td>
<td>22%</td>
<td>8%</td>
</tr>
<tr>
<td>Other student data</td>
<td>40%</td>
<td>39%</td>
<td>14%</td>
<td>7%</td>
</tr>
</tbody>
</table>
Figure 7. Use of Student Success Study Results, by Professional Level (N = 506)

- Senior leaders for decision making: 86%
- Mid-level staff for decision making: 86%
- Mid-level staff to influence individual students: 70%
- Front-line staff to influence individual students: 64%
- Front-line staff for decision making: 63%
- Senior leaders to influence individual students: 49%
Figure 8. Primary Responsibilities of IT, IR, and Student Affairs Professionals (N = 379–504)

- Develop the institution-wide data strategy: 35%
- Develop individual student-level data strategy: 21%
- Develop the model/collect and manage data: 58%
- Assess the strength/validity of the model: 59%
- Manage the early-alert system: 40%
- Interpret the data and results of analyses: 62%
- Disseminate results to multiple groups: 55%
- Develop interventions: 35%
- Conduct interventions: 42%
- Assess the impact of interventions: 36%

Legend:
- Institutional research
- Student affairs
- Information technology

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Figure 9. Shared Responsibilities of IT, IR, and Student Affairs Professionals (N = 314–426)

- Develop the institutionwide data strategy
  - Institutional research: 67%
  - Student affairs: 59%
  - Information technology: 59%
  - Total: 82%

- Develop individual student-level data strategy
  - Institutional research: 55%
  - Student affairs: 33%
  - Information technology: 59%
  - Total: 84%

- Develop the model/collect and manage data
  - Institutional research: 48%
  - Student affairs: 41%
  - Information technology: 41%
  - Total: 82%

- Assess the strength/validity of the model
  - Institutional research: 64%
  - Student affairs: 28%
  - Information technology: 20%
  - Total: 82%

- Manage the early-alert system
  - Institutional research: 30%
  - Student affairs: 18%
  - Information technology: 18%
  - Total: 64%

- Interpret the data and results of analyses
  - Institutional research: 75%
  - Student affairs: 46%
  - Information technology: 11%
  - Total: 79%

- Disseminate results to multiple groups
  - Institutional research: 75%
  - Student affairs: 48%
  - Information technology: 12%
  - Total: 75%

- Develop interventions
  - Institutional research: 77%
  - Student affairs: 18%
  - Information technology: 5%
  - Total: 77%

- Conduct interventions
  - Institutional research: 78%
  - Student affairs: 10%
  - Information technology: 4%
  - Total: 78%

- Assess the impact of interventions
  - Institutional research: 62%
  - Student affairs: 60%
  - Information technology: 7%
  - Total: 62%

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### Table 6. Staffing Required for Student Success Studies (N varies)

<table>
<thead>
<tr>
<th></th>
<th>Not in place and not needed</th>
<th>Not in place but is needed</th>
<th>Already in place, more is needed</th>
<th>Already in place, no more needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data functions</td>
<td>0%</td>
<td>20%</td>
<td>48%</td>
<td>32%</td>
</tr>
<tr>
<td>Management of analytics</td>
<td>0%</td>
<td>29%</td>
<td>42%</td>
<td>28%</td>
</tr>
<tr>
<td>Analytics and reporting</td>
<td>8%</td>
<td>35%</td>
<td>39%</td>
<td>19%</td>
</tr>
</tbody>
</table>


**Recommendations**

1. Identify & expand institutionally appropriate roles
2. Transcend or remove certain organizational silos
3. Prioritize measuring student outcomes
4. Increase the use of qualitative data
Student Success is **Must Be** Everyone’s Responsibility
Thank you!

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