**Task:** For the list below of ten data sources potentially related to student success, categorize each according to the given headings. Then suggest one other data source that you think might be important.

<table>
<thead>
<tr>
<th></th>
<th>Quantitative</th>
<th>Qualitative</th>
<th>Cognitive Skills</th>
<th>Social-Psychological data</th>
<th>Initial Conditions</th>
<th>Early indicators and/or time series data</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>High School GPA</td>
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<td>2</td>
<td>Results of admission scoring process (four numerical values)</td>
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<td>3</td>
<td>Test scores (ACT/SAT)</td>
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<td>4</td>
<td>Mid-term assessments for first-year students (three categorical values)</td>
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<td>5</td>
<td>1st semester GPA</td>
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<td>6</td>
<td>Change in GPA (current term-cumulative GPA)</td>
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<tr>
<td>7</td>
<td>&quot;The Freshmen Survey&quot; results - self reported attributes (numerical scores) of students during their first week on campus</td>
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<tr>
<td>8</td>
<td>Academic affairs and student affairs records of counseling and interventions</td>
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<tr>
<td>9</td>
<td>Results of interviews with students who have withdrawn from the college</td>
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<tr>
<td>10</td>
<td>Daily logs of student use of the academic labs (e.g. writing and math labs)</td>
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<tr>
<td>11</td>
<td>One other data source (Describe):</td>
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</tbody>
</table>

**Notes:**
"The Signal and the Noise in Student Success"

Exercise 2: System Requirements or What data will be most helpful

Task (IT professionals): how would you think about system requirements for these (or other) relevant data sources? We suggest you think about data capture, data sharing, and data out for analysis.

Task (Non IT): with these data sources in mind, speculate about which might be most important to serve as alerts or data sources for predictive modeling

**Data Capture**

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**Data Sharing**

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**Data Out for Analysis**

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Option: what data will be most important and how will you know?
Recommended Readings


GRINNELL COLLEGE

“Unit Record” System Requirements
October, 2015

1 CORE REQUIREMENTS

A. Data In (SIS feeds; forms for community members to submit concerns/red flags; core users input meetings with students)
   - System tied to SIS so that the data feeds from known individual student records at least once a semester; daily would be best
   - Inputs from all constituencies on campus: faculty, staff, students (may expand to parents or other concerned parties) to alert about student concerns
   - Entry of notes by staff regarding contacts with students: contacts of all kinds, including incident reports and office visits
   - Capture data -- simple screens; mobile; easy to use
   - Data should be categorized in a meaningful way upon entry depending on services being provided; categories for the issue, the action taken and any further recommended action; include narrative text fields in all cases
   - Document storage - ability to attach documents, letters, emails, photos, etc., to a student and/or to a specific event or issue

B. Workflow (data sharing & work functions for core users)
   - Easy sharing of information with other staff or faculty who “need to know”
   - Security settings to wall off information that should not be shared
   - Real-time alerts of new data being entered in the system for those who need to know or are “following” a student
   - Case management workflow for individual users to track “their” students

C. Data Out (quick views for core users; reports; data for developing predictive analytics)
   - Real-time views of information pertaining to individual students (i.e., individual student records)
   - Reports/screen views tailored for audiences (i.e., different for faculty, staff and students) with appropriate security measures and permission settings in place
   - ALL data accessible for analysis so that data mining, alerts and predictive modeling efforts can be kept current

2 DESIRABLE FEATURES

- Data flows are frequent and timely – i.e., daily rather than weekly or once a semester
- Connected with a scheduling system if seamless with Outlook
- Highly compatible with other systems in operation; should pull data from existing systems
- Low life-cycle cost (including IT support)
- Useable with a card-swipe system/proximity cards
- Batch/simplified data entry for faculty, e.g., from class roster