Who is this presentation for?
Ideally, this presentation seeks to reach anyone who is not familiar with the student data elements in Analytics.

Focus of Presentation
Concepts, components and practical applications

Preliminaries
1. Why Student Data
2. The community's perspective on student data

Why Student Data
Institutional stakeholder's vitality is predicated upon the precision of the information delivered to them.
What's a Stakeholder?

A Stakeholder can be defined as an individual or group with a direct interest involvement, or investment in the given cause.

Common Stakeholders

1. Deans
2. Program Administrators
3. Department Heads
4. Many More

Who's Responsible for the Deliverables?

1. Analysts
2. Coordinators
3. Essentially most of us

Community Perspective?

Student Data Vocabulary

- Components
- Academic Program
- Academic Organization
- Academic Career
- Interval Stratification of Data (academic year, term, fiscal year etc.)
- Concepts
- Attributes
- Measurements
- Data Flow
- Data unique to student not to institution
Concepts and Components: Like Buckets & Gemstones

- **Concepts** are buckets of components.
- **Components** are objects and subjects that relate to each other, such as all blue gemstones. These are the things we are interested in.
- **Attributes** are properties of the gemstones. Sometimes unique and other times not.
- **Measures** are calculated numbers put into specific units that quantify observations.

Concepts in Student Data

1. Components
2. Attributes
3. Measures

Components

1. Person or Student
2. Applications
3. Academic Plans
4. Courses
5. (Student Credit Hours)

Components

6. “Programs”
7. Graduation
8. Time Frame
9. Timing
10. Many More
A person becomes a student once admitted and agreed to be a student.

**Academic Plans**

*Academic Plans* are plans to complete a *degree* in a particular *study area (discipline)*.
Let’s Apply This in Analytics

Academic Plans in our systems are a combination of study area and degree

ABEPHD

ABEPHD

Agriculture & Biosystems Engineering

ABEPHD

ABEPHD

Agriculture & Biosystems Engineering, Doctor of Philosophy

Doctor of Philosophy
What About Majors?

“Major” indicates the field of study

“What” is a type of Plan

What’s an Active Student?

Students declare to be assigned to Plans

Active Students

Students are Active when they are in the system and assigned to a Plan

Considerations
Plans are owned by organizational units (Departments)

Admittance versus Declaration of Plan

Generalized Flow of Students

Courses

Enrolled Students = students taking courses

A student taking courses indicates a progressing and committed student
Student Credit Hours (SCH)

SCH is sometimes called Units, especially in our systems.

Student Credit Hours (SCH)

The Student Credit Hour is a measurement of course workload on the student.

SCH is a measurement and therefore requires components to have meaning.

Students must take a required amount of SCH in order to get a degree, depending on the Program and Plan.

Programs
Generalized Flow of Students

Programs
Programs are comprised of a sequence of courses and at least one Academic Plan

Considerations
Programs are often only available to the Department that owns them

Programs are often unavailable in institutional-level reporting systems

Academic Plans and Programs are essentially owned by Departments
Let’s Apply This in Analytics

Ownership of Academic Plan
Academic Reporting in Analytics
College = Academic Organization → Level 3

Always verify your results

Ownership of Programs
Academic Reporting in Analytics
Possibilities
Right now: only reliable in departments

Generalized Flow of Students

Brian Berrellez and Ben Markwart
Degrees & Graduation

Once students have finished their coursework, they may begin the process to receive their degree and diploma.

There are three distinctions with graduation milestones:

Degree Completions
Degrees are completed once students have finished their coursework and exams.

Degree Conferrals
Degrees are conferred once students have completed their academic requirements and paperwork.

Degree Awards
Degrees are awarded once students have completed business requirements and paperwork (e.g., property).
Typical Application of Graduation Distinctions

- Completions → Academic
- Conferrals → Business
- Awards → Institutional

Generalized Flow of Students

Time Frame

Standard intervals of time to consistently organize objects

Academic Time Frames

Academic Year

Regular Terms

Term
Academic Term
Fall, Spring, Summer, or Winter

Regular Academic Terms
Fall and Spring

Academic Year

<table>
<thead>
<tr>
<th>Academic Year 2016</th>
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</thead>
<tbody>
<tr>
<td>Fall 2015</td>
</tr>
<tr>
<td>Winter 2015</td>
</tr>
<tr>
<td>Spring 2016</td>
</tr>
<tr>
<td>Summer 2016</td>
</tr>
</tbody>
</table>

Business Years
Fiscal Year
Fiscal Period / Month
Calendar Year

Standard Fiscal Year
July 1st : June 30th
We are in Fiscal Year 2016 in August 2015 and March 2016

Fiscal Period
Fiscal Month Start : Fiscal Month End
Period 1 = July
Calendar Year
January 1st : December 31st

Specific Time Frames
Federal Fiscal Year
Grant or Project Year
Program Year

Timing

Generalized Flow of Students
At what point within time frames are we looking at information?

Current or Snapshot?

Current
- Live
  - Immediate changes reflected
  - Transactional Systems

Current
- Up-to-Date
  - Refreshed on a reasonable schedule
  - Reporting Systems

Why Not Always Current?

System Limitations
Stability, Validity, and Standardization

Why Snapshots?

Snapshots are consistent and function-oriented

Snapshots are used for trending and managerial reporting

Snapshots: Census

Snapshots are taken on pivotal days related to function-oriented timelines

21st day of classes
Census is standardized across institutions for reliable and verifiable reporting.

Snapshots: Fiscal Year End
June 30th is the end
Snapshot may actually be July 7th

Snapshots: Term End
Last day of classes

Snapshots: Others
Snapshots are taken on pivotal days related to business timelines

What Does This Look Like?
Time Frames and Timing are most important when it comes to measurements.

Applying Timing in Analytics
Choose the appropriate subject area to get the needed snapshot
Example: All Academic Plans – Census

Applying Time Frame in Analytics
Choose the appropriate type of time frame for your purposes
Example: Academic Year or Fiscal Year

Finalizing Review of Components
Components

1. Person or Student
2. Applications
3. Academic Plans
4. Courses
5. (Student Credit Hours)

Essential Takeaways on Time

- **Time Frame** provides: **consistent time periods**
- **Time Frame** groups: **Business or Academic**
- **Timing** provides: currency, uniformity, and reliability with **current or snapshot data**
- Generally, **current data** is for **academic reporting**, and **snapshot data** is for **business**

Essential Takeaways

- Students merely in **a Plan** are **Active**
- Students taking **courses** are **Enrolled**
- Programs and Majors are often not the same
- Generally, **Degree Award** is for **institutional reporting**, and **Degree Completion** is for **Units**

Concepts in Student Data

2. Attributes

All Components Have Attributes
Attributes

Attributes are characteristics or properties of a component.

Attributes can be shared between components or unique to specific components.

Example Attributes on Students

- Name
- Person ID
- Gender
- Ethnicity
- Email

Process of Including Attributes?
Think of the important (necessary) attributes for each component as you review requirements.

For each component, you may want to combine or group them based on particular attributes.

For each component, you may want to sum or aggregate them based on rules and particular attributes.

Concepts in Student Data

3. Measures

Generalized Flow of Students

Measures are numbers put into specific units and calculated to quantify an observation.
Performance Measures

Performance Measures are measures calculated using rules to assess how well desired objectives are met.

Performance Measures include additional components.

Example Additional Components

- Organizational Units
- Programs
- Specific Groupings
- Faculty Attributes

Measures are aggregated to attributes of components for reporting purposes.

Types of Measures

1. Business Measures
2. Academic Measures
3. Other Measures

Academic Measures
Examples of Academic Measures
- Student Credit Hour
- Graduation Rate
- Retention Rate
- Attrition Rate

Student Credit Hour
Aggregate by Student, Academic Plan, Program, Organizational Unit, or Faculty
Requires Rules Beyond Student Aggregation

Examples of Business Measures
- Faculty Productivity
- Program Productivity
- Major Productivity

Considerations with Measures
1. Type of measure
2. Components involved
3. Attributes of interest
4. Rules needed for goals
Applying Knowledge of Concepts

Scenarios & Examples in Practice

Scenario 1
A program director decides they want to have a major specific orientation for “new students” to the major as of this last year. Our dates are April 14th from 2-3:30 and April 15th from 12-1:30. We want to communicate to the students the importance of this event via email by April 1st.

What’s our Plan?
1. Communication
2. Verification
3. Recommendation

Verification
Program Director needs a list of names, and emails for all student who have a declare data of 8/24/15.

Recommendations
Our primary recommendation is to deliver the requested data when the data is absolutely needed to ensure that any new majors are not left off the list.
Way Through the Maze of Student Data

Mapping Concepts to Systems

<table>
<thead>
<tr>
<th>Concepts</th>
<th>Recommended Subject Area</th>
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</thead>
<tbody>
<tr>
<td>Upload Date</td>
<td>All Academic Plans</td>
</tr>
<tr>
<td>Active Students</td>
<td>Active Major GPA</td>
</tr>
</tbody>
</table>

Strategy

1. Subject Area
2. Attributes of Interest
3. Time and Place of Delivery

Select Your Attributes of Interest

Logic for Report

Scenario 2

Your Department Head asks:

“Can you get me a trend of our majors for the last three years to discuss with the dean about our undergraduate programs?”
What's our Plan?
1. Communication
2. Verification
3. Recommendation

Verification
A trend requires consistency → snapshot
You confirmed with your Department Head that it's about academics, not business

Verification
Census snapshot on Academic Year is needed for consistent administrative reporting about academics

Verification
We need a sum of undergraduate students by Academic Plan with Subplan to ensure all distinctions of “majors” are captured

Recommendations
Students → Enrolled
(Timing) → “Trend” → Snapshot → Census
“Majors” → Career, Plan, Subplan

Strategy
1. Subject Area
2. Attributes of Interest
3. Time and Place of Delivery
Mapping Concepts to Systems

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Select Your Attributes of Interest

Include Career as Best Practice

Compare Fall Terms

Count Majors → Plans

First try an existing report!
Use Analytics’ Features of Modifying Reports Directly in Dashboards

Use Your UA Resources to Learn More

Be humble.
No one knows everything.

Verify Your Results with Subject Matter Experts!

Summary of Scenario 2
Final Conclusions and Remarks

- Student data matters in an RCM World
- Gathering precise information about students is easier when we know the organization of the data
- Real-Time and Snapshot data usually answer different questions
- The burden is on us to get the right data to our stakeholders
- Communication
- Verification
- Recommendation
- Always check if you can modify an existing analysis first
- More student data in the Symposia to come

Thank You!

OUR AUDIENCE
UACCESS SYMPOSIUM TEAM
GUILLERMO URBEM
UNIVERSITY ANALYTICS & INSTITUTIONAL RESEARCH (UAIR)

Questions?

UPCOMING INTERACTIVE UACCESS SPEAKER SERIES