Analytics Open Labs

December 2, 2016

Sign In

Find Chris Thuringer and tell him your link blue id!

We are now using Tagger to track attendance at Open Labs.

Slide decks will be available on our IRAA website after each session.

http://www.uky.edu/iraa/open-labs-presentations

Open Labs schedule

9:00 AM - Two concurrent sessions:
- Beginner hour presentation
- One-on-one analyst sessions - please feel free to schedule in advance through analytics@uky.edu

9:30 AM - 30 minute presentation targeted at 'consumers', focused on how to use and retrieve meaningful data from dashboards already available on the IRAA website and Tableau Server.

10:00 AM - 30 minute presentation targeted at 'creators' and Super Users with more in-depth discussions on Tableau Desktop, HANA data models, presentations by other Super Users, etc.

10:30 AM - Time for questions, discussion, group work sessions, more one-on-one training, etc.

Presentation topics will be announced 4 to 6 weeks out. This is to allow for flexibility in what is covered.

http://www.uky.edu/iraa/hana-and-tableau-training

Fall 2016 Analytics Open Labs

12/2/16
9:30 AM – Preliminary Spring Retention
10:00 AM – Dashboards for Operational Data

12/16/16
9:30 AM – End of Term Reports
10:00 AM – All The Awesome Stuff We Did In 2016! (there will be **prizes**)

Training Page http://www.uky.edu/iraa/hana-and-tableau-training
Past Open Lab presentations   http://www.uky.edu/iraa/open-labs-presentations
Send suggestions for additional topics to analytics@uky.edu

Change of Location for December 16th

On December 16 we will be in the new **Academic Science Building** (Rose & Huguelet), Room JSB 108.

This will be our default location throughout Spring 2017.

Tableau v10.0

IRAA recommends that all users Tableau Desktop **v10.0**. We are currently only be supporting v10.0.

Those still on 9.X should upgrade to 10.0.

You should **NOT** upgrade to 10.1.

Tableau Desktop v10.0 can be found: http://www.tableau.com/support/esdalt.

Change to Fall 2016 Reporting Census Date

The Reporting Census Date has changed to October 15th starting this Fall.

The Reporting Census Date has previously coincided with the last day to add a class.

The Analytics Team has made changes to our data models over the last two weeks. We ask that you notify us if you see inconsistencies.

We will be doing some analysis on the students who are now excluded / included in the cohort.

Job Postings

CPE:

[Executive Director, Data, Research and Analysis](#)

KCTCS:

- [Director of Information and Reporting, Job #9709](#)
- [Director of Institutional Effectiveness and Policy, Job #9746](#)
- [Institutional Research Analyst, Job #9745](#)
- [Data Warehouse Research Specialist, Job #9744](#)

The Dreaded Dash (aka "-")

In many of our data models, we have replaced Null values with "-".

This is now having a strongly negative impact on HANA performance.

What would be the impact of removing all "-" values, replacing them with Null?

Stuff that might break:

- Filters that specifically include or exclude "-"
  - Filters that just simply leave out "-" entirely would NOT be affected
- Calculated fields that use "-"
  - E.g., IF [Field] = '-' THEN 'Craig' ELSE 'Stephen' END

We can make STUDENT_TEST versions for testing.

Preliminary Spring Retention

The Green Retention Dashboard

The finalized Fall 2016 cohort has been added to RETENTION_INSTITUTIONAL_PRELIMINARY.

IS_RETAINED_1ST_SPRING is being updated daily: students who have registered for classes in Spring 2017 are 'retained'.

The Green Retention Dashboard (Institutional Retention Dashboard with Preliminary Data) is available in Student Reports and Student Reports Detail

Daily updated data (1st Spring Preliminary) is reflected in the '**Retained 1st Spring**' and '**Retained % 1st Spring**' data fields on the dashboard.

Currently Unenrolled Students

Lists of individual students are available on the 'Student Institutional Retention and Graduation' tab.

Can filter for non-retained students using: Rate Selector = 'Retained 1st Spring' and Selected Rate = 'No'.

Rate Selector	Selected Rate
Retained 1st Spring ▼	Yes ▼

This is the official list of currently non-retained cohort students!

Filterable by College, Department, Major, etc.

Cohort Enrollment History

[Cohort Enrollment History](#) dashboard shows how we are doing compared to previous years.

The Retention Rate is calculated on each day and compared to the same day on the previous year.

> This is imperfect since key dates (e.g., end of priority registration, start of term) do not align exactly, but it's close.

For Fall 2016 cohort, UK is trending above all previous years.

Cohort Enrollment History (cont).

Cohort Enrollment History

Data is available in Chart and in Table format.

Filterable for individual Colleges.

Currently, data is not available at individual student level.

Operational / Institutional / Regulatory Data Types

Often, the first choice we have to make when writing reports is whether to use Frozen or Live data.

We also have to choose between Current/End of Term and Census date.

Choosing (and documenting) among these is critical for all reporting.

	Frozen	**Live**
External B.R. (e.g., Census Date)	Regulatory	Institutional
UK B.R. (e.g., Current / EOT)	?	Operational

B.R = Business Rules

Data Types in HANA Data Models - Operational

	Frozen	Live
External B.R. (e.g., Census Date)	Regulatory	Institutional
UK B.R. (e.g., Current / EOT)	?	Operational

Our default data type in HANA is **Operational**:

- End of Term (*today* for current term; last day of term for previous terms)
- Live from SAP / source system (usually refreshed nightly)

Generally, operational tables and fields do not have any suffix

Examples:

- ENROLLMENT_STATS_PER_TERM_DEMOGRAPHICS_DETAIL
- MAJORS_MINORS_MULTIPLE
- ACADEMIC_ALERTS

Data Types in HANA Data Models - Regulatory

	Frozen	Live
External B.R. (e.g., Census Date)	Regulatory	Institutional
UK B.R. (e.g., Current / EOT)	?	Operational

Recently, we have been focusing on providing better access to **<u>Regulatory</u>** data

- Approved by CPE, IPEDS, etc. (when appropriate)
- Available on IRAA Website

Generally, Regulatory tables and fields have a "_CPE", "_CPE_IPEDS", or similar label as appropriate.

- ENROLLED_STUDENTS_CPE_IPEDS*
- DEREES_AWARDED_CPE
- CLASS_ROSTER_CPE
- HR_YEARLY_SNAPSHOT_HISTORY**

Data Types in HANA Data Models - Institutional

	Frozen	Live
External B.R. (e.g., Census Date)	Regulatory	Institutional
UK B.R. (e.g., Current / EOT)	?	Operational

Institutional Data is a hybrid:

- Basically, an attempt to bridge gap between Regulatory and Operational
- Often can be used as "preliminary" for Regulatory
- Often more useful for historical trend reporting than Operational

Generally, but less exhaustively, Institutional tables and fields have a "_INSTITUTIONAL", or similar label as appropriate

- MAJORS_MINORS_MULTIPLE_INSTITUTIONAL
- DEGREES_AWARDED (Institutional & Operational are the same!)
- ENROLLED_STUDENTS_CPE_IPEDS*

Combining Data Types

	Frozen	Live
External B.R. (e.g., Census Date)	Regulatory	Institutional
UK B.R. (e.g., Current / EOT)	?	Operational

We are building data models that combine multiple data types in the same table

Advantages:

- Fewer data models to keep track of
- Same business rules used across different data types
- Can switch workbooks between data types easily
  - Workbooks that have a button to switch between data types
- Easier regulatory submissions

Disadvantages:

- Using data models correctly can be more difficult - need to make sure you pick the right data type
- Non-trivial to build
- Data models in various development states

Operational + Institutional

MAJORS_MINORS_MULTIPLE &
MAJORS_MINORS_MULTIPLE_INSTITUTIONAL

SPECIALZATIONS_HEADCOUNT = SPT_MMM_DEM + SPT_MMMI_DEM

Specializations Headcount dashboard

STATS_PER_TERM has IS_ENROLLED_CENSUS_DATE &
IS_ENROLLED_END_OF_TERM

	Frozen	Live
External B.R. (e.g., **Census Date**)	Regulatory	Institutional
UK B.R. (e.g., **Current / EOT**)	?	Operational

Effective Time Point
- ● Census Date
- ○ End of Term

Regulatory + Institutional

	Frozen	Live
External B.R. (e.g., Census Date)	Regulatory	Institutional
UK B.R. (e.g., Current / EOT)	?	Operational

ENROLLED_STUDENTS_CPE_IPEDS has DATA_SOURCE field in data model.

[Institutional and Regulatory Enrollment](#) dashboard has Data Source Selector

Data Source Selector ❓
- ○ Institutional
- ○ Regulatory w/ Preliminary
- ● Regulatory

This is the model for new development going forward, e.g.:

- Degrees Awarded
- Class Roster & Credit Hours
- HR - Faculty & Staff

Specializations Headcount vs Institutional and Regulatory Enrollment

	Frozen	**Live**
External B.R. (e.g., Census Date)	Regulatory	Institutional
UK B.R. (e.g., Current / EOT)	?	Operational

B.R = Business Rules

Purely Operational Data

Many data models and dashboards don't really make sense as Institutional or Regulatory data types and are purely Operational:

- Cohort Enrollment History
- Course Enrollment Curves
- Academic Alerts
- Missing Primary Instructors

Future Directions & Discussion

All Regulatory models will also include Institutional data.

Attempt to combine Operational, Institutional, and Regulatory in a single data model!

Consolidating External and UK business rules when possible.

Naming conventions

- Many of our TS workbooks are not well named; e.g. "Institutional" workbooks with only Regulatory data
- How descriptive are Operational, Regulatory, and (especially) Institutional?