

Outline for IAR's Data User Advisory Group Session 07/28/2017

Welcome everyone to this first meeting of our data user advisory group session. While Sathyan has already reviewed many of the data resources available via IAR's website, I'll be focusing more on the CSUMB Student Data Warehouse dashboards that we have already built and those that are currently under development.

The CSUMB Student Data Warehouse is a collaboration between Institutional Assessment and Research and Information Technology Compliance & Planning. IT handles the back end modeling of the data that feeds into the reports and IR is primarily responsible for the front end report building.

One of the primary goals of this advisory group is to obtain feedback from you, the users, as you use the dashboards over time that can be used to better serve your needs with the dashboard reports and visualizations that we develop. We know that many of the folks in this room are new to the data warehouse, but we look forward to working with you to create an interface that you will find becomes a useful, go-to-resource for your questions regarding student data.

1. IAR's Student Data Warehouse webpage

- a. Introductory video
- b. Getting access
- c. Quickstart guides available from csumb.edu/data

2. Dashboards in Production

a. Executive Overview

- A good place to start for an overview of CSUMB overall

- i. **Overview** - provides an overview of the university overall based on the academic year and term that you select.
 - 1. Breakdown of both applicants and enrolled students by demographics
 - 2. Breakdown of course enrollment by college by course FTES, units in progress, and students
 - 3. Breakdown of Graduates by demographics

- ii. **Trends** - provides an overview of the university overall on applicant and enrollment trends over time by demographics based on the academic year selected.
- iii. **Admissions** - provides an overview of applicants by academic program/objective based on the academic year and term selected.
 - 1. Notice how you can drill down on a particular academic program. For example, clicking on “Undergraduate Baccalaureate” drills down so that we can see the colleges nested in this hierarchy. You can then drill down further to get to the academic plans nested within each college. Clicking on “College of Arts, Humanities, and Social Sciences” brings up the academic plans nested within that college.
- iv. **Enrollment** - Provides an overview of headcount by level, GPA and units taken/passed by term, and units taken based on academic year and term selected.
 - 1. Notice how with the other dashboards, you can toggle between visualization methods--e.g. A graph versus a pivot table.
 - 2. For the GPA by Term, you can select the average term GPA, average cumulative GPA, average units taken in progress, average units passed in progress, and average units taken for GPA. Like the previous tab we looked at, you have the capacity to drill down by academic program to get to college and eventually to academic plan. You also can filter this table by a particular demographic that you might be interested in.
 - a. Let’s say for example that you want to see the average cumulative GPA for all students in the undergraduate baccalaureate program in the college of arts, humanities, and social sciences, that have psychology as their academic plan. And then say we want to see this broken down by gender or race/ethnicity.
 - 3. For the “units taken analysis” pane, you can look at the academic group, academic load, or academic program to see how the units taken in progress, for GPA, and for non GPA compare with one another.
- v. **Financial Aid Summary** - provides a CSUMB-wide overview of financial aid for the aid year selected. You can see how much aid was distributed by a source, how aid by source, type, or academic career has trended over time, how the total aid amount has trended over time, and how the amount of aid offered vs that dispersed varies across different sources, types, or academic career types.

1. Notice how you can drill down on the aid distribution by source to get to the aid type.
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- vi. **Courses** - provides a snapshot of the most taken courses by total student enrollment across the university, and a drillable pane for the average GPA by all courses across the university. You can drill down by college to get to the academic plans.
 1. Notice on the right there are also links that will take you to more extensive tables that detail grade distribution details across the courses. These are broken down by whether or not the students were earning credit or not ("Y" and "N") and if you drill on these you can see the actual grade value distributions
 - vii. **Degrees** - provides a trends breakdown of all degrees awarded at CSUMB which can be broken down by academic career, degree type, academic plan owner (college), or education level (bachelors vs. masters)
 1. The panel below allows you to see the quantity of degrees awarded with honors by selecting an academic year and term.
 - viii. **Credentials** - this tab provides a look at credential completers by type and by different demographics across the university by the academic year selected.
 - ix. **APDB** - provides an overview of the student faculty ratio for the university overall. Notice that you can look at this table by college (default setting), by buildings on campus, by the type of class it is, by course classification number (CS number), by course level, learning mode, by service learning, HEGIS, by teacher credential program, and by meeting pattern.
 1. Below, you also have a panel that provides an overview of faculty workload in FTE, by headcount, by Instructional Administration Fraction, Instructional Faculty Fraction, and by Other Support Fraction.
 - x. **Repeats & EO 1037** - provides and overview of the total units of grade forgiveness, repeat, and withdrawal used after implementing executive order 1037

-While the executive overview is a good starting point for looking at student statistics for CSUMB overall, we have other dashboards already developed that will likely be more useful to you in answering questions related directly to statistics on an individual college or academic plan. The next several dashboards I will show you have more capacity to generate results focused on a particular college and plan.

b. Term Enrollment Fast Facts

-This set of dashboards provides a good starting point whenever you have any questions regarding enrollment in a particular college or major. Currently, these reports return primarily tables, but in our next focus of development after our retention and graduation dashboards are fully built out, we will be doing more visualization of enrollment data.

- i. **Enrollment Demographics** - this first tab provides an overview of the enrollment demographics by academic year and term. You can optionally select a college to filter all the results by a particular college, academic career type, or academic program type.
 1. For example, if we wanted to find out the proportion of the college of arts, humanities, and social sciences who are hispanic/latino, we could easily filter the results and see the breakdown of race/ethnicity for that college. The table on the right provides a breakdown by major and the tables on the left provide breakdown by gender, race/ethnicity, age, and country.
- ii. **Map** - provides a visualization of where all enrolled students are coming from globally.
- iii. **Majors Report (Census)** - provides a pivot table that provides headcount and state FTEs for all colleges and majors by new/continuing enrollment status, student type, and student level.
 1. Notice that you can easily export the table (at the bottom) if you want to do further analysis on it in Excel or another program.
 2. Most of the analyses we have developed can be exported or printed using links below the analysis.
- iv. **Enrollment Fast Facts (Census)** -This tab replicates IAR's one-pager fast facts sheet that some of you may already be familiar with. It has additional capacity to tailor the data displayed based on specifications that you can set at the top for type of student, admissions basis, cohort type, student level, and college.
 1. Let's say you want to look at Undergraduate, First-Time Freshmen, in the College of Arts Humanities and Social Sciences. You can easily filter the entire dashboard by these parameters.
 2. You probably know that native americans make up a relatively small race/ethnicity group at CSUMB, but if you wanted to see how many native american undergraduate, first-time freshmen, in the College of Arts Humanities and Social Sciences there were in

Spring 2017 at census, this is a quick way to do so. And you can see that there were 8 native americans in this group for the census snapshot selected.

3. In addition to race/ethnicity, you can get the gender, region, age, student level, first generation, underrepresented minority, low income, and major breakdown on this dashboard.
- v. **New versus Continuing (Census)** -provides a tabular breakdown of new versus continuing students by residency status group, student type, and student level.
1. Notice how the Spring semester and Fall semester differ. There were no new students in 2017 Spring, but in 2016 Fall you have new students (primarily freshmen).

c. Trends by College

-This is the next series of dashboards that we will be building out further after we wrap up development on the retention and graduation dashboards we are currently building. These dashboards provide another go-to spot where you can come to look at specific indicators like admissions, enrollments, and degrees by college and academic plan.

- i. **Admissions**-this dashboard provides an overview of the admissions process from application to admission, to confirmed, to enrolled. I'll be showing you some more detailed admissions dashboards a little later when we get to the admissions funnel dashboards, but this is a quick place to come to see trends in the admissions process by college and plan.
 1. Let's select the College of Science so that we can focus on just this college. Notice that the graph below updates to filter by just students in the college of science.
 2. Notice also that you change the view to a trend graph or different types of pivot tables depending on what question you are interested in answering.
 3. Also, you can further break these down by selecting demographic or academic characteristics from the "group by" drop down.
 4. You can also use the slider to toggle across the years to see how the patterns change over time. If you select the "play" button, it will cycle through the series automatically.
- ii. **Enrollment** - The enrollment dashboard also provides an opportunity to look at how a college's or major's enrollments have changed over time.

Again, you have the option to switch between different views. The default is a pivot table, but you can toggle to a trend graph or distribution graph depending on how you'd like to visualize your data. You can also select a pivot table with two levels of cross-tabs if you want to break down the results by more than variable.

1. Let's again select the College of Science to focus on just one college.
2. Maybe you are interested in seeing how the race/ethnicity of students enrolled in the College of Science has changed over time. With the 1 Level Crosstab table you get a tabular breakdown of this from 2008 onwards.
3. You can also toggle to a trend graph if that will help you visualize the data better.
4. Let's say you also wanted to break down by gender. Then select the 2 Level Crosstab report option and change the second breakdown option to "gender".
5. While you can't visualize the data by multi-level crosstabs currently on the dashboard, you could then export this table and create your own graph in Excel or PowerPoint if you wanted to.

iii. **Degrees-** Like the Admissions and Enrollment trends dashboards, the Degrees trends dashboard enables you to see trends in degrees awarded by a college or major over time.

1. Let's look at the College of Arts, Humanities and Social Sciences.
2. The default visualization that comes up is a trend graph, and you can break this down by whichever demographic or academic variable you would like to using the dropdown. Notice that the majority of degrees awarded by this college is amongst 21-24 year olds, which is to be expected, and this trend has been growing over time alongside the growth in enrollment overall.
3. Let's say we were interested in knowing how the trends in tri-county degrees in this college have been over time. We could select "region" and you can see that the this college awards more degrees to tri-county students than to students from other region groups (again, this is probably because we enroll more students from this population).
4. Below this pane, you can also open up another pane to look at Degree Honors in this college. Clicking on the expand tab will open up graphs and table that allows you to see degree honors within this college over time.
5. Notice that these results are for the college overall. If we wanted to focus on degree honors awarded just amongst Psychology students over time, we could go back up to the top and select only

“Psychology” under “Major Long Description”. All of the graphs and tables will then update to filter by Psychology within the College of Arts, Humanities and Social Sciences.

-So, these trends dashboards are already quite rich with detail and you can already answer many questions you might be interested in. As I noted earlier, these are going to be built out even further as one of our next phases of development. So, if you find that there are things that could work better another way or things that might be missing that we may be able to add, we would definitely like to hear that feedback as you get a chance to get into the dashboards and play with them in the weeks ahead.

d. Provost Fast Facts Dashboard

-This dashboard is a useful resource to consult if you are interested in seeing how today's enrollments in the university, a particular college, or a particular major measure up to yesterday and to the same day a year ago.

-Like many of the previous dashboards I've shown you in this group, you can break this down by college and major. So, say we wanted to look only at Business Administration enrollments within the College of Business. This will filter the dashboard down to just those enrollments.

-Notice that you can change the variable used in the graph and table as well. The default is student classification or level, but you can choose to breakdown by another variable such as student population, time status, gender, race/ethnicity, or college.

-Notice also at the top you have a timestamp that indicates when these report was refreshed. As you can see, it was refreshed this morning at 12:00AM.

e. APDB

-This next series of dashboards builds on the APDB dashboard that is included in the executive overview dashboards but goes into more detail.

- i. **Course FTES for Academic Year** - The first tab gives you an overview of course FTES by academic year by department. You can expand the table to look at majors and courses within a college. For example, if we click on the College of Arts, Humanities and Social Sciences and then on Psychology, we can drill down to the individual courses to get the FTES for those courses.

1. Notice how the table doesn't expand automatically. If you ever encounter a table like this that seems cut off, you just need to click the expand button to expand the whole table.
- ii. **Average Class Size and Credit Load** - The second tab gives you the average class size and average credit load for courses.
 1. Again, click on a particular college to drill down. Let's look at the College of Health Sciences & Human Services and then at Kinesiology.
 2. When you drill all the way down, you get to the individual course listings.
- iii. **Faculty Instruction** - This third tab gives a breakdown of faculty, credits taught and the average credit taught per faculty in a given college, major, or course.
 1. Let's again drill down on College of Health Sciences & Human Services and then Kinesiology

-The next few dashboards are ones that have been developed to help with various mandated reporting that IAR is responsible for.

f. Campus Profile

- Provides and overview of FTF preparation, campus enrollment by cohort type, student type, minority status, headcount, and FTEs, admissions, and degrees.

g. Chancellor's Office Reports

-Provides tables that are used as part our mandated reporting for enrollment planning report and IPEDs fall enrollments and completions.

- i. Enrollment Planning Report
- ii. IPEDS - Fall Enrollment
- iii. IPEDS - Completions

h. Common Data Set

-Provides tables that are used as part of our reporting to groups that use the common data set such as the College Board, Peterson's, and U.S. News & World Report.

- i. Enrollment

- ii. FTF Admissions
- iii. Transfer Admissions
- iv. Student Origin
- v. Classes
- vi. Degrees

i. CSU Unit Testing

-This is a dashboard used to help test and verify CSUMB campus reporting to the chancellor's office.

j. Academic Program Review

-This is a dashboard we have developed that helps centralize many of the data and resources that a program will need when preparing their academic program review.

k. Admissions Funnel

-This dashboard is one of the newest ones we have developed and recently released into production that you can explore. Our plans are to eventually have detailed dashboards for different phases of the student life-cycle that are built out more fully like this dashboard. Currently, we are working on retention & graduation. That is the last dashboard set that I will show you.

-Notice that with these dashboards, we have incorporated a new feature at the top "Instructions for Use." You can click on the expand button on this section on each of the dashboards, and you are provided with an introduction of what the dashboard does, instructions on how to filter the results and change the visualization views, and notes to users that will be helpful in understanding how to interpret the data and what caveats must be taken into account.

- i. **Admissions Funnel Overview** - this first tab gives you an overview of the admission funnel process from application through admission, confirmation, and enrollment. You can see below that visualizations provide a snapshot of the current year as well as trends over time.
 - 1. You can filter this dashboard by a particular admit year, term, cohort type, college, and academic plan or major.
 - 2. You can also further breakdown the graphs below by different demographic or academic characteristics.

3. And you can change the visualization method if you prefer looking at the data as a different type of graph or as a pivot table.
 4. Let's say we are interested in looking at the admissions funnel breakdown for Fall 2016 for students in the College of Arts, Humanities and Social Sciences. We could apply these filters and the dashboard updates.
 5. Then, let's say we are interested in the gender breakdown, we could select "gender" from each of the graph dropdowns for select group breakdown. Then you can change your visualization method.
 6. Notice on the trend graph that you can use the slider to toggle between the different genders and the trend graph will update.
 7. Below each of the graphs, you also get a tabular representation of the data.
- ii. **Admissions Demographics by College** - this dashboard lets you look at demographics of admitted students in a particular college. You can click on a particular college in the bar graph on the left and the graphs on the right will update based on the college you have selected.
1. You can also change the visualizations on the right to a bar graph or pivot table if you prefer those visualization methods over a pie chart.
- iii. **Comparisons - College/Plan vs. Campus Overall** - this dashboard is helpful for comparing a particular college or academic plan with the university overall.
1. Let's say you wanted to compare the admissions funnel process of the College of Science with that of the university overall. You could select College of Science as your filter for comparison.
 2. Notice that the graph on the right updates with the filtered totals for the College of Science. You can then choose to breakdown these graphs by different demographic or academic characteristics such as gender, and you could change the visualization method if you prefer an alternative way of looking at the data than the stacked bar chart.
- iv. **Trends** - This dashboard lets you look at the trends over time in applicants, admits, confirms, and enrolled students side by side. As with the previous dashboards, you can break this down by college and major as well as different demographic and academic characteristics.
- v. **2-Level Crosstab Breakdown** - Finally, this last tab gives you the capacity to break down the data by two different variables. For example, if

you wanted to break this down by gender and underrepresented minority status, you could. Again, you can also filter the results by college, academic plan or major, and also by cohort type.

1. As with the other dashboards, you can change the visualization method if you prefer to see a trend graph or pivot tables.
2. For the trend graph, notice that you get additional selectors when you choose this visualization method. In this case we have a dropdown for gender and for underrepresented minority. You can change these to update the trend graph to reflect the selection that you want to look at the trend for. This helps keep the graph from being so cluttered with multiple lines that it becomes unreadable.

-So, that concludes the dashboards that we have already available to you in production. We hope that in the days and weeks ahead, you will go in and start playing with these dashboards and get a feel for how they work and what is available. At our next meeting, we hope that you will be able to provide us feedback on what you had trouble with and what could be improved as we continue to move forward with this project.

-Now, I want to show you one more set of dashboards on retention and graduation that have not yet been released into production, so you are not yet able to access them. However, we are hoping to release them soon and want to give you this preview of what is to come. One of our future advisory group sessions after we release these dashboards and you have a chance to play with them will be dedicated to your feedback on what changes we may be able to make to improve these and make them more useful for you.

3. Dashboards Under Development (forlinden)

a. Retention & Graduation Dashboards

- i. **Overview** - this dashboard provides an overview of retention and graduation by matriculation term of entering cohorts. You can filter the results by cohort type, college, and academic plan or major.
 1. Notice that as with the newer admissions funnel dashboards, you have Instructions for Use that can be expanded on each of the dashboards for instructions and background on how best to interpret the data.
 2. You will also have optional filters available if you want to look at one particular demographic group.
 3. Like the other dashboards we've developed, you can also change the way the data is visualized if you prefer to see a trend graph or pivot table rather than the bar graphs.

4. The pivot table is very similar to the IAR Retention & Graduation App that we have previously provided for this data. As we build out these dashboards, that app will soon be retired. The newer dashboards provide many more options for filters, visualization, and cross tabulation than our prior Ret/Grad App.
- ii. **Comparisons: College / Plan vs. CSUMB Overall** - Like in the admissions funnel dashboards we just looked at, this dashboard allows you to compare a college or major with CSUMB overall. Here we are looking at retention and graduation rates for the College of Health Sciences and Human Services.
 1. Notice that you can change the visualization to display graduation or different ways of visualizing the data such as a trend graph or pivot table.
 - iii. **Entering Cohort Progression Detail** - This dashboard allows you to visualize the retention and graduation of an entering cohort from their first year through 10 years. It gives a breakdown of students that continue to be enrolled, those that are no longer enrolled but that have not graduated, and those that have graduated.
 1. This dashboard will also allow you to view the data by just one of these measures (for example, students no longer enrolled but not graduated).
 2. You can then break these down by demographic and academic characteristics to better understand the population. For example, if you wanted to know the gender of those students that did not graduate and did not continue from a cohort, you could select gender. In this case, you can see that a greater proportion of males than females did not continue from the fall 2008 entering cohort.
 - iv. **Trends Breakdown** - This dashboard is still very much a work in progress, but it will allow you to look at trends in graduation and retention rates over time by a particular demographic or academic breakdown.
 1. The 4-year graduation measure is the one that is mostly built out, so I will switch to that one to show you what this will look like.
 2. You'll be able to break this down by the particular retention or graduation rate measure you want to look at over time and by the group breakdown you select. The charts on the right give a quick visualization of how the data is trending over time and allows for a quick comparison between the breakdowns you select.

- v. **Achievement Gaps** - One of the important parts of the CSU's Graduation Initiative 2025 is to decrease achievement gaps between different groups of students. This dashboard helps to visualize the gaps in retention and graduation that exist between particular groups. Right now, we have built out analyses for male vs. female, tri-county vs. other regions, and URM vs. non URM students. In a future retrofit of our data model, we will also be adding pell recipients vs. those not receiving pell, and first generation vs. not first generation.
- vi. **Cohort Progression by Matric Term Table** - This dashboard replicates basically what our IAR Ret/Grad app table used to look like but adds in the capacity to break this down by up to four demographic/academic variables as well as college and major at the top (so 6 potential crosstabs in total). This would be where you would want to come if you need to look at the data using multiple group breakdowns with the intent of exporting the data for your own continued analysis or visualization.

-That concludes the overview of the dashboards we have prepared to show you today. I think we could now open up for some questions and comments.

Notes:

Attendees: Janine, Mary, Fran, Hayley, Stacy, Kris, Sharon, Vanessa, Vivian, Artemas, Andrew, Callie, Andrea, Jose Luis, Siphany

The group consensus was to meet as one large group rather than two smaller groups.