Survey Dashboard Walkthrough

Use the Tableau Packaged Workbook **Survey Data Workbook.tbwx**

We will cover prepping the data source prior to building the visualization.

First, create the Measures you will need:
1. Because we are using string data from the responses, we will need to create a measure with the strings converted to numbers.
   - Go to Analysis and Create Calculated Field...
   - Use the INT function on the [Response] field to create a numerical Measure for your analysis and visualization.

   ![Numerical Response Calculation](image)

   The calculation is valid. 9 Dependencies ▼ [Apply] [OK]

2. Using the Numerical Response Measure, create Measures for Importance and Satisfaction.

   ![Importance Rating Calculation](image)

   The calculation is valid. 4 Dependencies ▼ [Apply] [OK]
Now we can create a dual-axis chart comparing importance and satisfaction levels for the various measures.

1. Create a new sheet in your workbook. Drag Column Category to the Filters shelf and filter on Importance and Satisfaction.
2. Drag Column Labels to Rows.

3. Drag Importance Rating to Columns and change Measure to Average (AVG).

4. Drag Satisfaction Rating to Columns and change Measure to Average (AVG).
(Note: You can also right-click the Measure and drag it to the shelf. This will automatically bring up the menu to select with measure you want to use in the visualization.)

At this point your visualization should look like this:
If the bar charts are too close together, use Ctrl + up arrow to make the cells taller, or go to Format → Cell Size → Taller.

5. Click on Satisfaction Rating in Columns shelf and click Dual Axis.

6. Right click on the Importance Rating axis and select Synchronize Axis.

7. On the AVG(Importance Rating) card, change Mark Type to Bar.
8. Make sure the AVG(Satisfaction Rating) Mark Type is set to Circle, and adjust the size to make it slightly bigger

9. Ctrl (or Cmd)-Click and drag the AVG(Satisfaction Rating) measure to Label on the AVG(Satisfaction Rating) Marks Card; Do the same with the AVG(Importance Rating)

Your visualization should now look like this:
The final steps are just some cleanup of the details.

10. On the AVG(Satisfaction Rating) Marks card, click Label and change Alignment to centered

11. Right-click on the Satisfaction Rating axis at the top of the visualization and uncheck show header

12. Right-click on “Column Labels” in the upper-left corner and select Hide Field Labels for Row
You can adjust the color and size of the bars and circles and the size of the labels in the Marks card for each element. You can also right-click on the axis and change the axis title. The finished visualization looks like this:

![Dual Axis Importance and Satisfaction](image-url)

- Quality of financial aid services: 3.5
- Quality of faculty: 4.0
- Quality of academic advising: 3.6
- Quality of in-person / face-to-face courses: 4.0
- Quality of career services: 3.8
- Ease / organization of course registration process: 3.8
- Quality of online courses: 3.8
- Quality of my co-op or internship: 4.1
- Quality of course assistants (Teaching Assis.): 3.8
- Quality of new student orientation to your progra.: 3.7
- Quality of other student services: 3.8
- Quality of my XN learning experience: 3.9
- Ease / organization of admissions process: 4.1
- Quality of university communications and outreach: 4.0

Average Score on 1 to 5 Scale
Grade and Withdrawal Distribution Walkthrough

Use the Tableau Packaged Workbook Performance and Curriculum Data.tbwx
Using sheet: Grade Data.

Add your data to a sheet:
- Drag Grade Regroup to Columns and Rand Id to Row.
- Convert Rand Id to Measure, use CNT, Count, which counts the number of student IDs in your dataset. Depending on your needs, there might be cases where you use CNTD: Count Distinct.

To obtain a percent of total rather than just a count, use a table calculation for CNT(Rand Id). Use Percent of Total, compute using Table (across).

To filter by course, select show filter for Course, or drag Course to the Filters Card.
Labels: Drag **Rand Id** to the Label Card and change to Measure>CNT. Again, use a table calculation. If you want to show the count in the label as well, drag Rand Id again to the Label Card and convert to the Count Measure.

**Clean up:**
- Add **Grade Regroup** to Color Marks card and edit colors
- Remove Header from Axis
- Hide Field Labels from Column
- Remove Grid Lines from Rows
- Format the labels, % Total CNT(Rand Id), the text color and label display to meet your needs
To obtain Withdrawal information, Create a New Sheet
  • Create a group from Grade Regroup titled WFI, which combines the outcomes A/B/C/D into one Category “Pass.”

Add your data to a sheet:
  • Drag Rand Id to Columns.
  • Convert Rand Id to Measure, use CNT, Count. Use percent of total table calculation
  • Drag WFI to the Color Marks Card
To filter by course, select show filter for Course, or drag Course to the Filters Card.

Sort WFI outcomes to be more intuitive; Pass, Fail, Incomplete, Withdrawal.

Clean up:
- Labels: Drag Rand Id to the Label Card and change to Measure>CNT. Again, use a table calculation. If you want to show the count in the label as well, drag Rand Id again to the Label Card and convert to the Count Measure.
- Edit colors in the Marks Card
- Remove Header from Axis
- Widen the bar
- Remove Grid Lines from Columns
- Add a Tooltip for hovers
- Format the labels, % Total CNT(Rand Id), the text color and label display to meet your needs
Assessment Performance Dashboard

Use the Tableau Packaged Workbook *Performance and Curriculum Data.tbwx*
Using sheet: *Performance Data*

To show student performance just as **average assignment grade**, add your data to a sheet:
- Drag **Associated Competency** and **Assignment** to Columns.
- Drag **Grade** to Rows as Measure **AVG(Grade)**

**Clean up:**
- Drag **Grade** as Measure **AVG(Grade)** to Label Marks.
- Remove Header from Axis
- Hide Field Labels from Columns
- Remove Grid Lines from Rows
- Format the labels, **AVG(Grade)**, the text color and label display to meet your needs

For alternative format as a **percent of total** create a **New Sheet**

First, create two Calculated Fields to determine **percent of students who achieved at least a B.**
1. **Benchmark:** Assigns a '1' for students that received a grade above a certain designed threshold. This example selects an assignment grade of at least 85.

   \[
   \text{IF} \ [\text{Grade}] \geq 85 \ \text{THEN} \ 1 \\
   \text{ELSE} \ 0 \\
   \text{END}
   \]

2. **% Benchmark:** Counts the number of students above the benchmark divided by the total number of students to get Percent of students who achieved at least an 85 (B). If you prefer, you can use COUNTD-Count Distinct of Rand Id.

Add your data to a sheet:
- Drag **Associated Competency** and **Assignment** to Columns.
- Drag **% Benchmark** to Rows as **AGG(% Met Benchmark)**

![Performance on Signature Assignments](image)

In Assessment, typically you have a Performance goal, something like **80% of learners will achieve an 85 (B)**. You can showcase that goal using a reference line.
To color code the bar chart by above or below that reference line, create a calculated field **Results**, as an IF/THEN to add a statement “Meets” or “Does Not Meet” the benchmark.

\[
\text{IF } \% \text{ Benchmark} \geq 0.8 \text{ THEN } "Meets"
\]

\[
\text{ELSE } "Does Not Meet"
\]

\[
\text{End}
\]

Drag **Results** to the **Color** Marks Card. Edit the colors to be more intuitive.

**Labels:**
- Drag **% Benchmark** to the Label Marks Card as AGG(% Benchmark).
- Format **% Benchmark** to be a percentage
- Drag **Rand Id** to the Label Marks Card as a Measure CNT(Rand ID).
Tooltips/Hovers:

- Drag **Learning Outcome** and **Course** to the Tooltip Marks Card
- Edit the tooltip to aid with interpretation, for example on the ethics assignments to measure Ethical Practices, 91% of learners achieved at least an 85.

\[
\text{<AGG(\% Benchmark)> of learners achieved at least an 85 on their <Assignment> in <ATTR(Course)>}
\text{Associated Competency: <Associated Competency>}
\text{Learning Outcome: <ATTR(Learning Outcome)>}
\text{Results: <AGG(Results)>}
\]

```
Edit Tooltip
```

```
<AGG(\% Benchmark)> of learners achieved at least an 85 on their <Assignment> in <ATTR(Course)>
Associated Competency: <Associated Competency>
Learning Outcome: <ATTR(Learning Outcome)>
Results: <AGG(Results)>
```
Clean Up

- Remove Header from Axis
- Hide Field Labels from Columns
- Remove Grid Lines from Rows
- Format the labels, the text color, and label display to meet your needs

91% of learners achieved at least an 85 on their Ethics Assignment in LDR 902.

Associated Competency: Ethical Practices

Learning Outcome: Investigate a real-life ethical dilemma to develop an action plan for solving and preventing similar problems at the organizational and societal levels.

Results: Meets.
To create a rubric dashboard, create a new sheet

- Drag *Rubric Row Description* to *Rows*
- Drag *Rubric Column Description* to *Columns* as Measure \( \text{CNT(Rubric Column Description)} \). Use a Tableau Calculation *Percent of Total (across)* to get the percent of rubric results for each criterion in the rubric.

To determine the percent of students that fall which each level of achievement, drag *Rubric Column Description* to the *Color Marks Card*.

- Sort the *Rubric Column Description* to be more intuitive and better match order of level of achievement/scale in rubric.
- Edit the Colors as needed to be more intuitive.
If you want to have a singular value (average score) for each criterion in the rubric create a calculated field **Average Score**, as a ratio **average points** to **maximum points**.

\[ \text{AVG}([\text{Points}])/\text{AVG}([\text{Max Points}]) \]

Then:

- Drag **Average Score** to Columns as **Agg(Average Score)**
- Ensure you have the **Bar Chart Marks Card** for % of Total **CNT(Rubric Column Description)** and the **Circle Marks Card** for **Agg(Average Score)**
- Remove the coloring by **Rubric Column Description** so the circle is a solid color
- Utilize a **Dual Axis** so you can both measures in one view. If needed, **synchronize axis**
Labels: Drag Rubric Column Description to the Label as Measure CNT(Rubric Column Description). Again, use a table calculation, Percent of Total (across) to get the percent of rubric results for each criterion in the rubric. If you want to show the count in the label as well, drag Rubric Column Description again as Measure CNT(Rubric Column Description).

Clean Up
- Remove Header from Axis
- Hide Field Labels from Columns
- Remove Grid Line and Row Divider
- Format the labels, the text color, and label display to meet your needs
Curriculum Dashboard

Use the Tableau Packaged Workbook **Performance and Curriculum Data.tbwx**

Using sheet: **Curriculum Data**

To create a simple word cloud:

- Drag **Skill name** to the Text [T] Marks Card
- Drag **Number of Records** to the Size Marks Card

Note: Might need to create a Calculated Field titled **Number of Records** with a value of 1.

Clean up:

- You can add a filter by **Program Name** (or **Course Title**)
- Color code by a specific attribute, such as size or a category of Skill: Drag **Skill name** to Color
To create a simple list of courses or outcomes,

- Drag **Course Code** and/or **Course Title** to Rows, use the **Text [T] Marks Card**
- Add a Filter for program

### Curriculum Course List

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Abc</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO001</td>
<td>Medical Terminology</td>
<td>Abc</td>
</tr>
<tr>
<td>BIO002</td>
<td>Principles of Biology 1</td>
<td>Abc</td>
</tr>
<tr>
<td>BIO003</td>
<td>Principles of Biology 2</td>
<td>Abc</td>
</tr>
<tr>
<td>BIO004</td>
<td>Human Anatomy and Physiology 1</td>
<td>Abc</td>
</tr>
<tr>
<td>BIO005</td>
<td>Microbiology</td>
<td>Abc</td>
</tr>
<tr>
<td>BIO006</td>
<td>Cell Biology</td>
<td>Abc</td>
</tr>
<tr>
<td>BIO007</td>
<td>Genetics and Molecular Biology</td>
<td>Abc</td>
</tr>
<tr>
<td>BIO008</td>
<td>Cell and Tissue Culture Techniques</td>
<td>Abc</td>
</tr>
<tr>
<td>BIO009</td>
<td>Biochemistry</td>
<td>Abc</td>
</tr>
<tr>
<td>BIO010</td>
<td>Biological Sciences Senior Project</td>
<td>Abc</td>
</tr>
</tbody>
</table>

**Clean Up**

- It’s possible to hide the automatic ‘Abc’ using a variety of methods, such as creating a Calculated Field **Blanks** with “” that you drag to the **[T] Marks Card**
- Hide Field Label for Rows
- Adjust the row banding as needed

Similarly, to create a list of program or course outcomes, drag **Program Outcomes** to the **Text [T] Marks card**

### Program Outcomes

1. Define, explain and analyze vocabularies, experiments, theories and concepts in biology or biotechnology using current research, tools, methods and technologies.
2. Craft a research grant proposal that includes an innovative approach and cutting edge methods and technologies to address an emerging biotechnology related challenge or opportunity.
3. Use data analytics to complete a scientific process including experimental planning, technical experimentation, data analysis, and dissemination of findings.
4. Integrate acquired confidence, skills, behaviors and values to effectively discern professional and personal learning and goals and to shape personal and professional identities.

Putting it all together in a Dashboard, create a dashboard and drag all sheets to the dashboard. To ensure the Program Filter applies to all worksheets, within one Sheet check-off **Apply Filter to Selected Worksheets**
Program Outcomes

1. Complete a strategic management analysis of an entrepreneurship or innovation challenge in a business setting.
2. Apply the process, tools, and concepts of financial reporting, financial statement analysis, and valuation used by investors and analysts to complete a real-world deliverable.
3. Examine the foundational principles, concepts, and measurement theories relating to financial reporting and stewardship in both the internal and external environment.
4. Assess the structure and functions of the U.S. and international financial markets and institutions.
5. Develop and justify a position and/or an approach to an issue pertaining to business ethics and corporate social responsibility by disse..