A Picture is Worth a Thousand Words

2018 Fall Staff Professional Development Conference
“Lead the Way by Embracing Change: Removing Barriers to Professional Growth”

Camellia Inman
Strategic Planning and Assessment
Enrollment and Student Services

October 2018
Learning Outcomes

- Visual is easier to understand and use
- Effective graphics
  - Show the data
  - Reduce the clutter
  - Integrate text and graphs

# Exhibit A

## Wake Tech Curriculum Enrollment and Wake County Unemployment 2009 - 2017

<table>
<thead>
<tr>
<th>Year/Academic Year</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wake Tech Unduplicated Headcount (Number of Students)</td>
<td>22,860</td>
<td>24,935</td>
<td>26,273</td>
<td>27,893</td>
<td>28,594</td>
<td>29,025</td>
<td>29,050</td>
<td>29,750</td>
<td>29,936</td>
</tr>
<tr>
<td>Wake County Unemployment Rate</td>
<td>8.9%</td>
<td>8.9%</td>
<td>8.5%</td>
<td>6.4%</td>
<td>6.5%</td>
<td>4.9%</td>
<td>4.3%</td>
<td>4.2%</td>
<td>4.2%</td>
</tr>
</tbody>
</table>

Data Sources:
Wake Tech Headcount by NCCCS Data Warehouse (CURSTA1 Annual Undup Count by College), Wake Tech Fact Book August 2017, Wake Tech Institutional Effectiveness, Accreditation, and Research
Data Sources:
Wake County Unemployment Rate by North Carolina Department of Commerce (https://d4.nccommerce.com/LausSelection.aspx), Wake Tech Institutional Effectiveness, Accreditation, and Research
Wake Tech Headcount by NCCCS Data Warehouse (CURSTA1 Annual Undup Count by College), Wake Tech Fact Book August 2017, Wake Tech Institutional Effectiveness, Accreditation, and Research
# Pictures for Eyes and Mind

Spring and Summer 2018 Wake Tech Graduates Accepted at Universities and Colleges

<table>
<thead>
<tr>
<th>University/College</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appalachian State University</td>
<td>36</td>
</tr>
<tr>
<td>East Carolina University</td>
<td>64</td>
</tr>
<tr>
<td>Meredith College</td>
<td>14</td>
</tr>
<tr>
<td>North Carolina Central University</td>
<td>11</td>
</tr>
<tr>
<td>North Carolina State University</td>
<td>107</td>
</tr>
<tr>
<td>University of North Carolina at Chapel Hill</td>
<td>47</td>
</tr>
<tr>
<td>University of North Carolina at Charlotte</td>
<td>38</td>
</tr>
<tr>
<td>University of North Carolina at Greensboro</td>
<td>26</td>
</tr>
<tr>
<td>University of North Carolina at Wilmington</td>
<td>19</td>
</tr>
<tr>
<td>Wake Tech Community College</td>
<td>39</td>
</tr>
<tr>
<td>William Peace University</td>
<td>8</td>
</tr>
<tr>
<td>Other</td>
<td>73</td>
</tr>
</tbody>
</table>

Data Source: First Destination Outcomes Survey, Spring Summer 2018, Career and Development Resources Division
[https://go.waketech.edu/employee/initiatives/IandResearch/FDO%20Documents/First%20Destination%20Outcomes%20Survey%20Results%20Spring%20Summer%202018.pdf](https://go.waketech.edu/employee/initiatives/IandResearch/FDO%20Documents/First%20Destination%20Outcomes%20Survey%20Results%20Spring%20Summer%202018.pdf)
Pictures for Eyes and Mind

Spring and Summer 2018 Wake Tech Graduates Accepted at Universities and Colleges

- North Carolina State University
- Other
- East Carolina University
- University of North Carolina at Chapel Hill
- University of North Carolina at Charlotte
- Wake Tech Community College
- Appalachian State University
- University of North Carolina at Greensboro
- University of North Carolina at Wilmington
- Meredith College
- North Carolina Central University
- William Peace University

Data Source: First Destination Outcomes Survey, Spring Summer 2018, Career and Development Resources Division
https://go.waketech.edu/employee/initiatives/EandResearch/FDO%20Documents/First%20Destination%20Outcomes%20Survey%20Results%20Spring%20Summer%202018.pdf
## Pictures for Eyes and Mind

### Spring and Summer 2018 Wake The Graduates Accepted at Universities and Colleges

<table>
<thead>
<tr>
<th>University</th>
<th>Number of Students</th>
<th>Percentage of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Carolina State University</td>
<td>107</td>
<td>22%</td>
</tr>
<tr>
<td>East Carolina University</td>
<td>64</td>
<td>13%</td>
</tr>
<tr>
<td>University of North Carolina at Chapel Hill</td>
<td>47</td>
<td>10%</td>
</tr>
<tr>
<td>Wake Tech Community College</td>
<td>39</td>
<td>8%</td>
</tr>
<tr>
<td>University of North Carolina at Charlotte</td>
<td>38</td>
<td>8%</td>
</tr>
<tr>
<td>Appalachian State University</td>
<td>36</td>
<td>8%</td>
</tr>
<tr>
<td>University of North Carolina at Greensboro</td>
<td>26</td>
<td>5%</td>
</tr>
<tr>
<td>University of North Carolina at Wilmington</td>
<td>19</td>
<td>4%</td>
</tr>
<tr>
<td>Meredith College</td>
<td>14</td>
<td>3%</td>
</tr>
<tr>
<td>North Carolina Central University</td>
<td>11</td>
<td>2%</td>
</tr>
<tr>
<td>William Peace University</td>
<td>8</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>73</td>
<td>15%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>482</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Data Source: First Destination Outcomes Survey, Spring Summer 2018, Career and Development Resources Division
https://go.waketech.edu/employee/initiatives/IEandResearch/FDO%20Documents/First%20Destination%20Outcomes%20Survey%20Results%20Spring%20Summer%202018.pdf
Data Visualization and Human Perception

SEEING (fast and efficient)

THINKING (slow and inefficient)

Parts of the Human Brain

Gestalt Principles of Perception

Preattentive Attributes

## Preattentive Attributes

<table>
<thead>
<tr>
<th>Pattern</th>
<th>Example</th>
<th>Pattern</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>High, low and in between</td>
<td><img src="example1.png" alt="Example" /></td>
<td>Non-intersecting and intersecting</td>
<td><img src="example2.png" alt="Example" /></td>
</tr>
<tr>
<td>Going up, going down and remaining flat</td>
<td><img src="example3.png" alt="Example" /></td>
<td>Symmetrical and skewed</td>
<td><img src="example4.png" alt="Example" /></td>
</tr>
<tr>
<td>Steep and gradual</td>
<td><img src="example5.png" alt="Example" /></td>
<td>Wide and narrow</td>
<td><img src="example6.png" alt="Example" /></td>
</tr>
<tr>
<td>Steady and fluctuating</td>
<td><img src="example7.png" alt="Example" /></td>
<td>Clusters and gaps</td>
<td><img src="example8.png" alt="Example" /></td>
</tr>
<tr>
<td>Random and repeating</td>
<td><img src="example9.png" alt="Example" /></td>
<td>Tightly and loosely distributed</td>
<td><img src="example10.png" alt="Example" /></td>
</tr>
<tr>
<td>Straight and curved</td>
<td><img src="example11.png" alt="Example" /></td>
<td>Normal and abnormal</td>
<td><img src="example12.png" alt="Example" /></td>
</tr>
</tbody>
</table>

Principles and Common Sense

Spring 2018 Wake Tech Curriculum Student Enrollment Status

Principles and Common Sense

Wake Tech Unduplicated Curriculum Enrollment
Online Campus from 2011 - 2016

Principles and Common Sense

Wake Technical Community College
Support for Learners from CCSSE 2015 Survey

How much does this college emphasize each of the following? (Quite a bit or Very much)

- Providing the support you need to help you succeed at this college: 74%
- Encouraging contact among students from different economic, social, and racial or ethnic backgrounds: 50%
- Helping you cope with your non-academic responsibilities (work, family, etc.): 22%
- Providing the support you need to thrive socially: 30%
- Providing the financial support you need to afford your education: 50%

## Principles and Common Sense

**Wake Technical Community College**  
**Support for Learners from the 2015 Community College Survey of Student Engagement**

<table>
<thead>
<tr>
<th>How much does this college emphasize each of the following? (Quite a bit or Very much)</th>
<th>Percentages of Student Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Providing the support you need to help you succeed at this college</td>
<td>74%</td>
</tr>
<tr>
<td>Providing the financial support you need to afford your education</td>
<td>50%</td>
</tr>
<tr>
<td>Encouraging contact among students from different economic, social, and racial or ethnic backgrounds</td>
<td>50%</td>
</tr>
<tr>
<td>Providing the support you need to thrive socially</td>
<td>30%</td>
</tr>
<tr>
<td>Helping you cope with your non-academic responsibilities (work, family, etc.)</td>
<td>22%</td>
</tr>
</tbody>
</table>

*Percentages of Student Responses*

Wake Tech Fall 2017 First Time in College Student Count by North Carolina County

3,469 Students
83% Wake County

Tableau Developer: Camellia Inman
Data Source: 2017-18 Pathways Minority Male Success Initiative Report,
The Office of Strategic Planning and Assessment, Enrollment and Student Services
Wake Tech Fall 2017 First Time In College Students Proximity to Wake Tech Campuses and Centers by Zip Code in Wake County

Tableau Visual

Tableau Developer: Camellia Inman
Data Source: 2017-18 Pathways Minority Male Success Initiative Report, The Office of Strategic Planning and Assessment, Enrollment and Student Services
Wake Tech Curriculum Education Annualized Full-Time Equivalent (FTE)

Wake Tech Curriculum Education Annualized Full-Time Equivalent (FTE)

The Dataviz Golden Rule

Don’t betray your audience's first impression.

Image Sources: Unsplash.com, https://unsplash.com
The Dataviz Golden Ratio

The Golden Ratio is 1.618 to 1 rectangle. It is also means the focal point is 61.8% of height times 61.8% of width.

References: https://www.evolytics.com/data-driven-storytelling-tips-iron-viz-champion/5-use-the-golden-ratio/
https://visual.ly/community/infographic/how/golden-ratio-design
Dataviz Illusion

Additional References


Takeaway:
1. Show the data
2. Make text easy to read
3. Use a zero origin
4. Don’t exaggerate the slope
5. Integrate text and the graph
6. Reduce the clutter
7. Use color to enhance and guide
8. Be aware of colorblindness
9. Sometimes less is better
10. Use Golden Ratio Design

Sometimes we simply need to make it easier to do those things that work.
Thank you for attending.
Contact: Camellia Inman
clinman1@waketech.edu

SPA Website
assessment.waketech.edu

Enjoy Lunch!

Image Source: Unsplash.com https://unsplash.com/search/photos/sub