Deciphering Dense Data: Approaches to Visualization
Sara Amato, samato@blc.org, Eastern Academic Scholars’ Trust
Kathleen Spring, kspring@linfield.edu, Linfield College

Tools of the Trade: Data Cleanup

OpenRefine (http://openrefine.org/)
“OpenRefine (formerly Google Refine) is a powerful tool for working with messy data: cleaning it; transforming it from one format into another; and extending it with web services and external data.”

Library Carpentry (https://librarycarpentry.github.io/)
Software and data skills for library professionals. “Automate repetitive, boring, error-prone tasks; create, maintain and analyse sustainable and reusable data”

Normalizing Data (https://en.wikipedia.org/wiki/First_normal_form)

Tools of the Trade: Charts & Graphs & Dashboards

Canva (https://www.canva.com/)
Design presentations, infographics, social media graphics, and more with drag-and-drop tools; tutorials available at https://www.canva.com/learn/design/tutorials/.

Most spreadsheet software (e.g. Excel, Google Sheets, Open Office)
Create charts, graphs, and pivot tables. Google sheets recently added data cleanup tools like splitting cells into rows, and transposing rows to columns.
Spreadsheets are like databases and can be queried via SQL, e.g. Google Sheets Query Function: https://goo.gl/kcee7y

Tableau Desktop (https://www.tableau.com/learn/training)
Business intelligence software; import or live-connect to spreadsheets and databases; create charts, graphs, storyboards, and dashboards, and share them online.
Discounts available for educational institutions from TechSoup.org. Tutorials are at https://www.tableau.com/learn/training and require registration that will result in a sales call. (Most tutorials can be found directly on their YouTube channel.) A sample EAST project is available here: https://goo.gl/2aKPMw
### Other tools we’ve heard good things about but haven’t used (yet!)

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D3</strong> (<a href="https://d3js.org/">https://d3js.org/</a>)</td>
<td>Javascript library for charts and graphs; can use Google Sheets as a data source.</td>
</tr>
<tr>
<td><strong>Google Data Studio (Beta)</strong> (<a href="https://datastudio.google.com/">https://datastudio.google.com/</a>)</td>
<td>“Tell your story with data.” Similar to Tableau; tutorials available at <a href="https://support.google.com/datastudio/answer/6390659">https://support.google.com/datastudio/answer/6390659</a></td>
</tr>
</tbody>
</table>

Presentation slides available at: [http://digitalcommons.linfield.edu/librariesfac_pres/12/](http://digitalcommons.linfield.edu/librariesfac_pres/12/)