Project Outcome:
Learning Good Data Visualization

August 15, 2019

project | OUTCOME
MEASURING THE TRUE IMPACT OF LIBRARIES

Public Library ASSOCIATION

Introductions

Amanda Johnson
Data Analysis &
Communications Consultant
State Library of North Carolina

Emily Plagman
Manager, Impact & Advocacy
Public Library Association

Nellie Barrett
Program Coordinator
Public Library Association

Is your library already participating in PLA's Project Outcome?

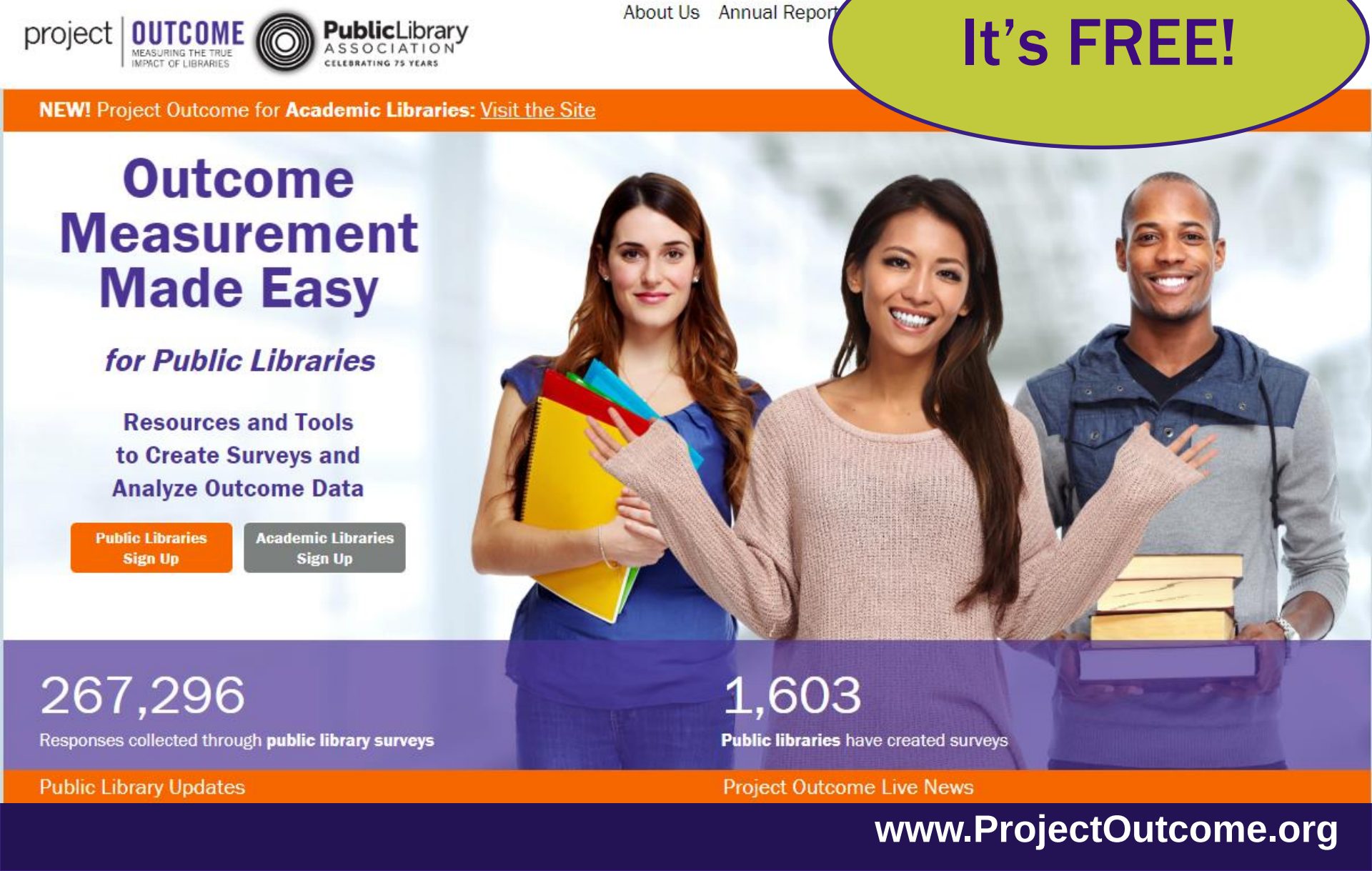
Agenda

- Project Outcome Toolkit & Data Dashboard
- Building Effective Visualizations
- Tips to Improve Any Visualization
- Design Principles
- Wrap-Up & Questions

Project Outcome Toolkit & Data Dashboard

What is Project Outcome?

It's FREE!

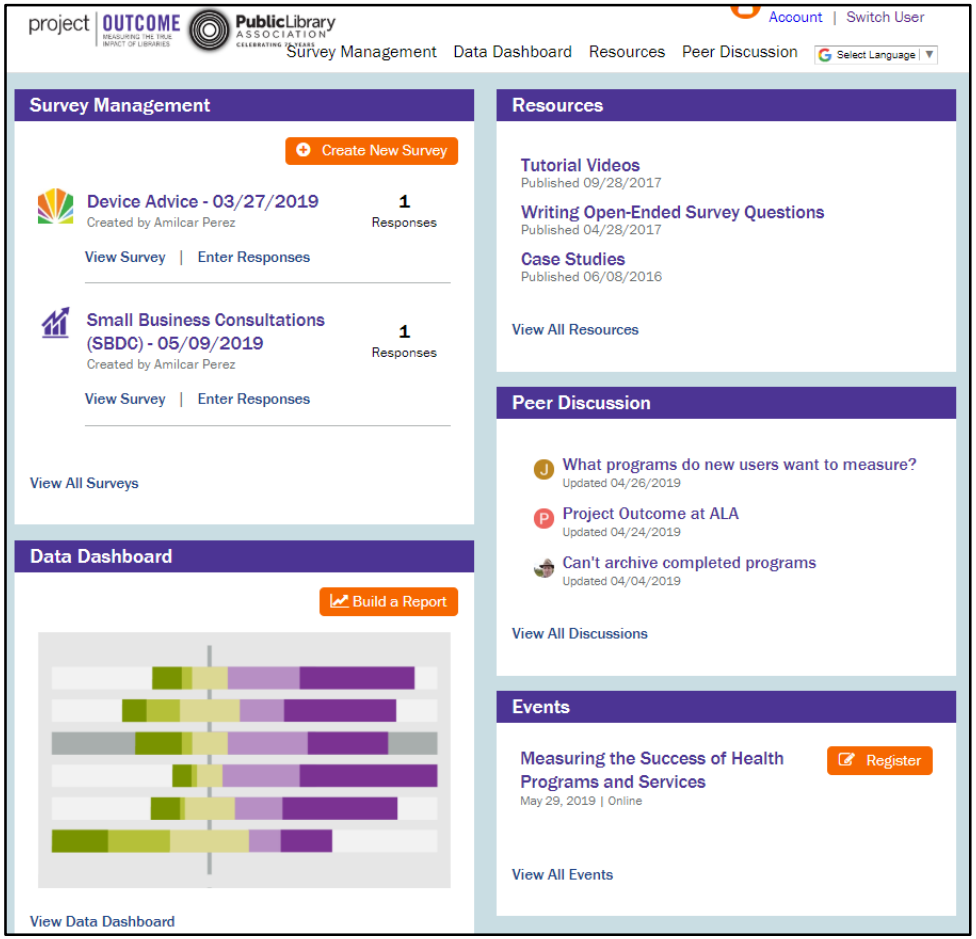


www.ProjectOutcome.org

Project Outcome Toolkit

Access to:

- Quick & simple surveys
- Easy-to-use survey tool
- Custom data reports
- Interactive data dashboards
- Resources & training



Public Library Survey Topic Areas

EARLY CHILDHOOD LITERACY

DIGITAL LEARNING

EDUCATION/LIFELONG LEARNING

SUMMER READING

JOB SKILLS

HEALTH

CIVIC/COMMUNITY ENGAGEMENT

ECONOMIC DEVELOPMENT

Survey Outcomes

Quantitative Data

Knowledge

Confidence

Behavior Change

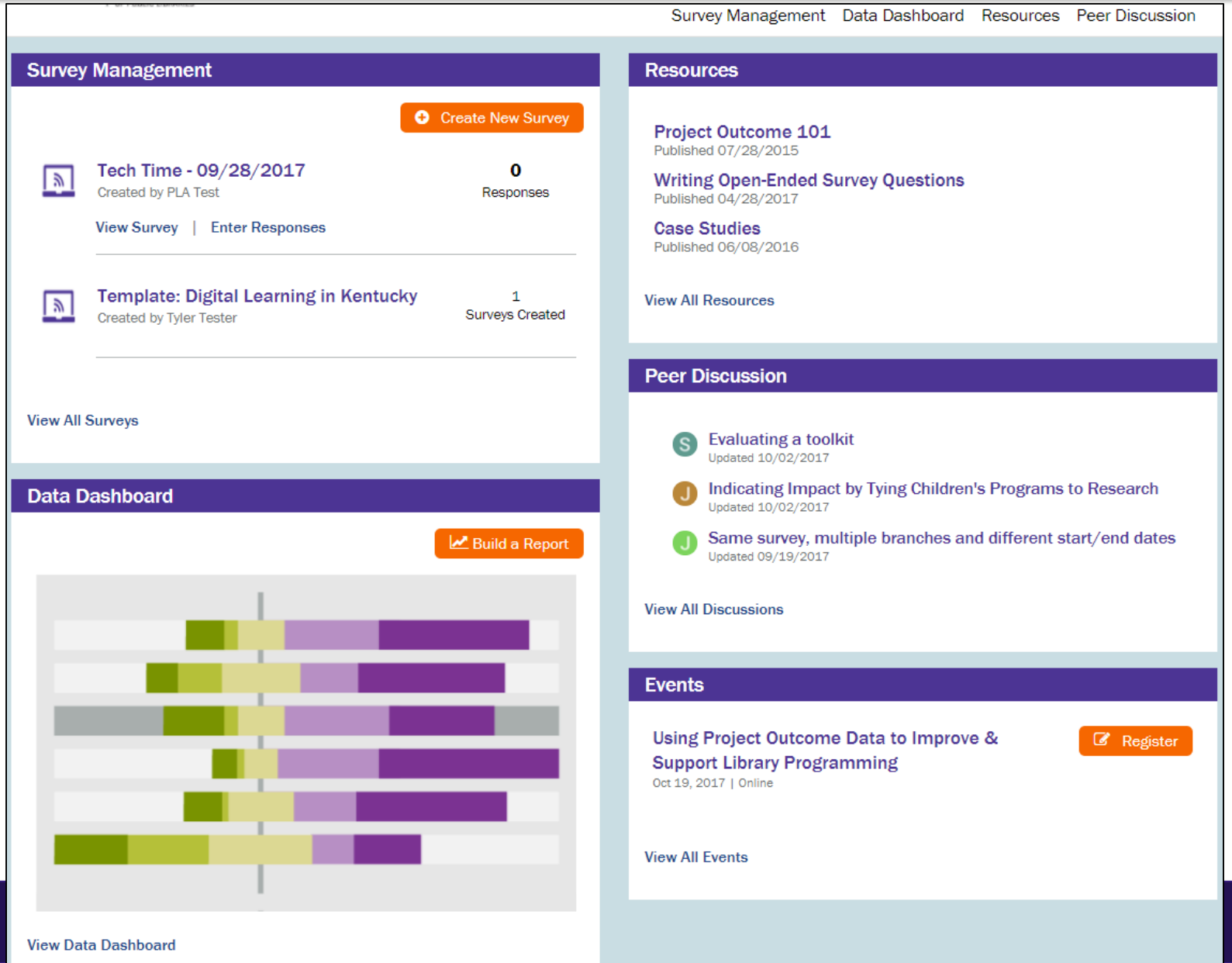
Awareness

Qualitative Data

What did patrons like most?

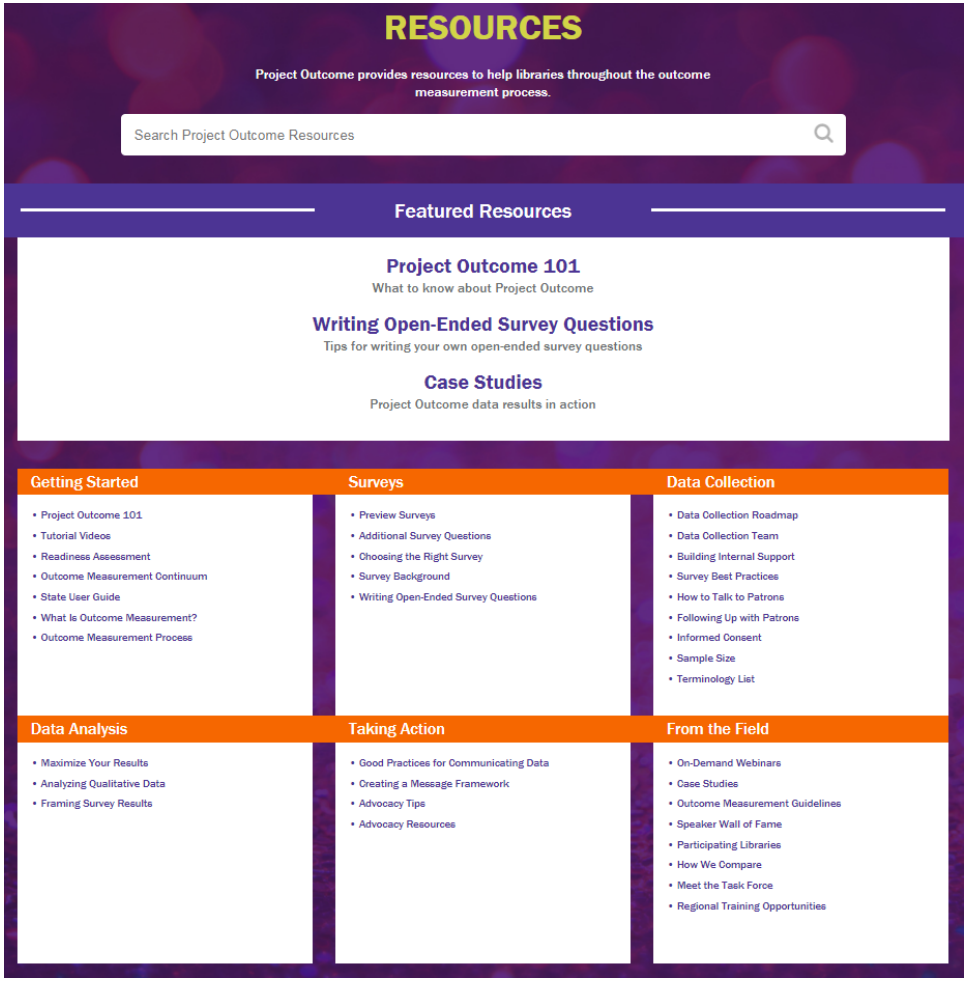
What can the library do to improve?

Website: www.projectoutcome.org



Training Resources

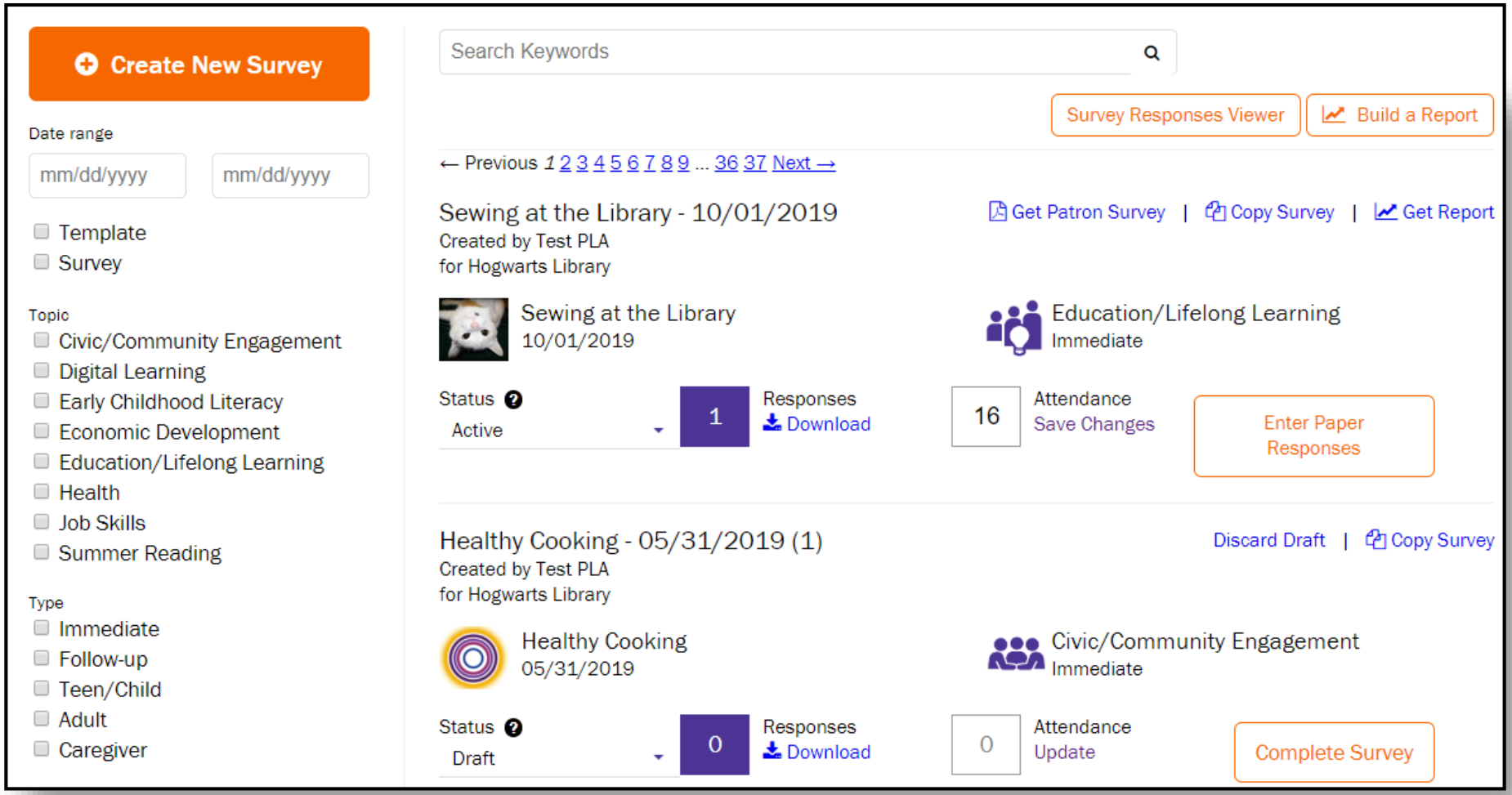
- Featured Resources
- Getting Started
- Surveys
- Data Collection
- Data Analysis
- Taking Action
- From the Field



Training Resources

Resources > Getting Started > Tutorial Videos

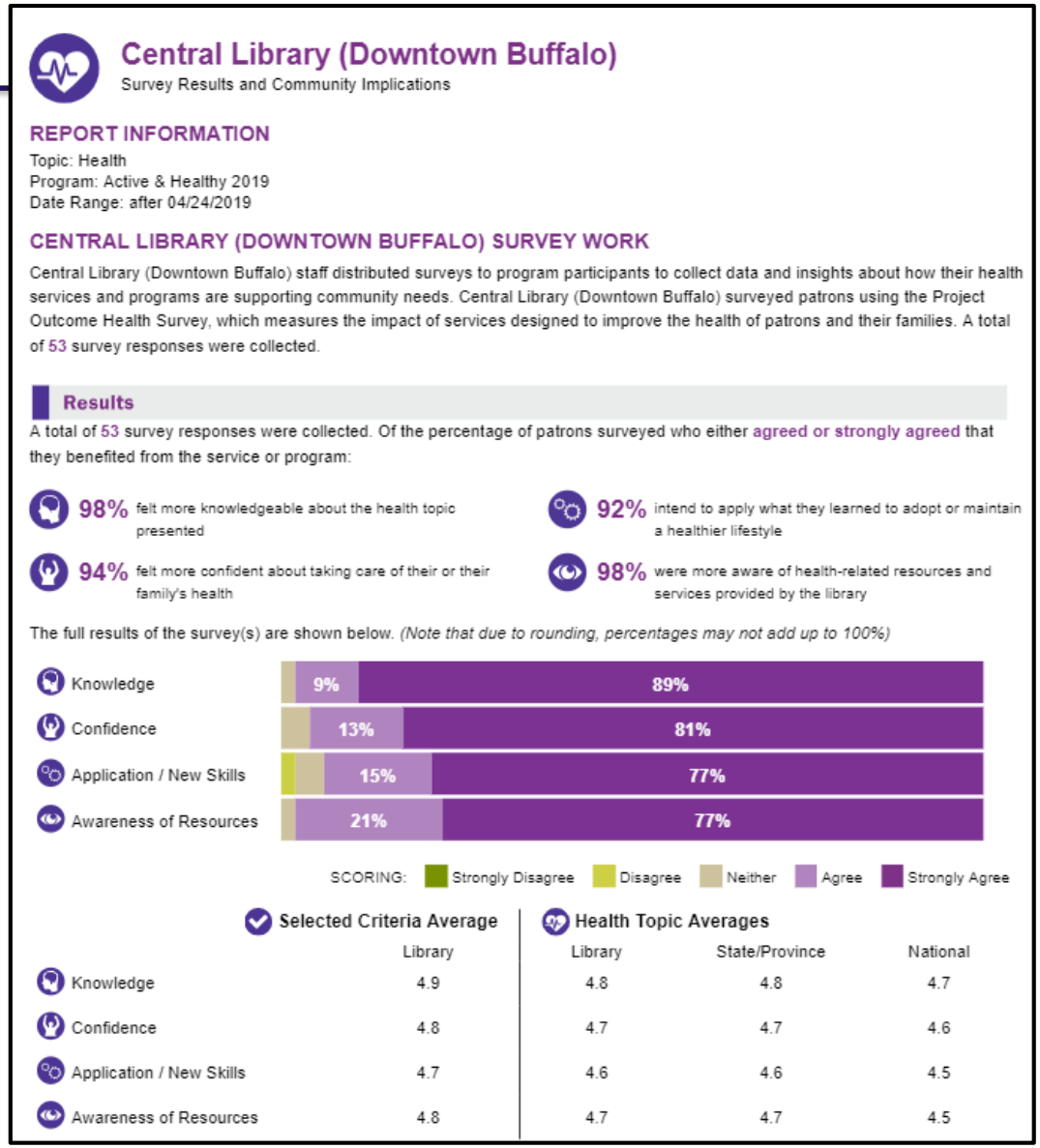
Surveys & Data All in One Place



Easy Reporting

Build custom reports and aggregate data by:

- ❑ Survey topic
- ❑ Library location
- ❑ Program name
- ❑ Survey name
- ❑ Date range



Central Library (Downtown Buffalo)

Survey Results and Community Implications

REPORT INFORMATION

Topic: Health
Program: Active & Healthy 2019
Date Range: after 04/24/2019

CENTRAL LIBRARY (DOWNTOWN BUFFALO) SURVEY WORK

Central Library (Downtown Buffalo) staff distributed surveys to program participants to collect data and insights about how their health services and programs are supporting community needs. Central Library (Downtown Buffalo) surveyed patrons using the Project Outcome Health Survey, which measures the impact of services designed to improve the health of patrons and their families. A total of 53 survey responses were collected.

Results

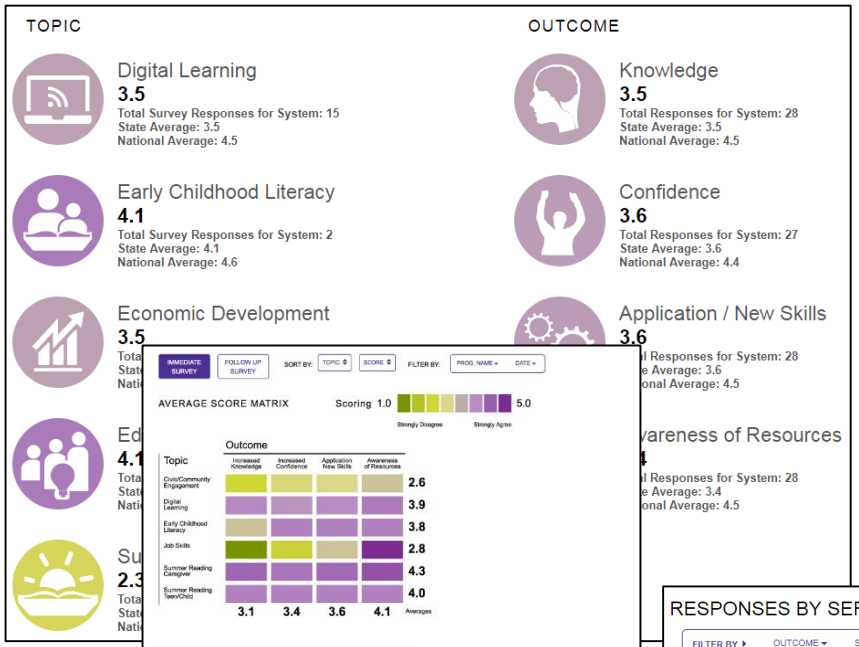
A total of 53 survey responses were collected. Of the percentage of patrons surveyed who either agreed or strongly agreed that they benefited from the service or program:

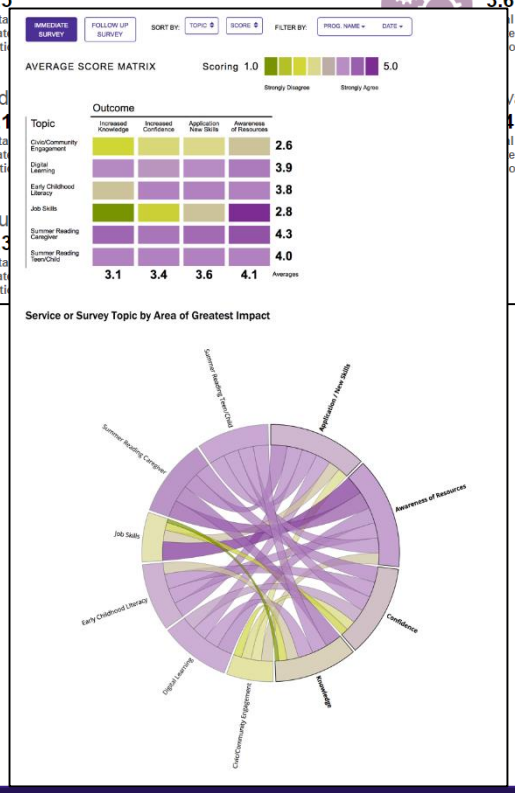
- **98%** felt more knowledgeable about the health topic presented
- **92%** intend to apply what they learned to adopt or maintain a healthier lifestyle
- **94%** felt more confident about taking care of their or their family's health
- **98%** were more aware of health-related resources and services provided by the library

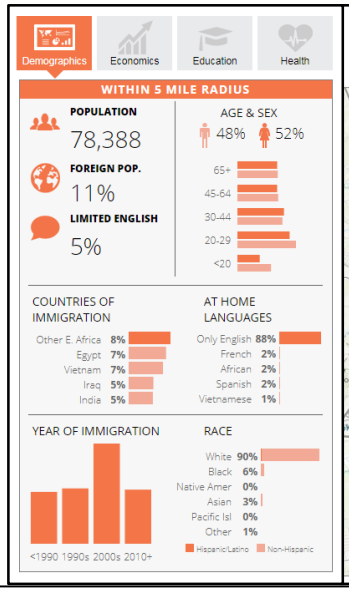
The full results of the survey(s) are shown below. *(Note that due to rounding, percentages may not add up to 100%)*

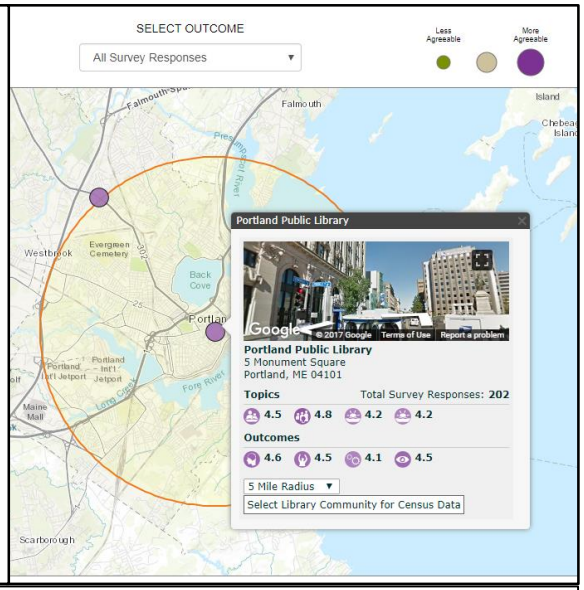
	Selected Criteria Average	Health Topic Averages		
	Library	Library	State/Province	National
Knowledge	4.9	4.8	4.8	4.7
Confidence	4.8	4.7	4.7	4.6
Application / New Skills	4.7	4.6	4.6	4.5
Awareness of Resources	4.8	4.7	4.7	4.5

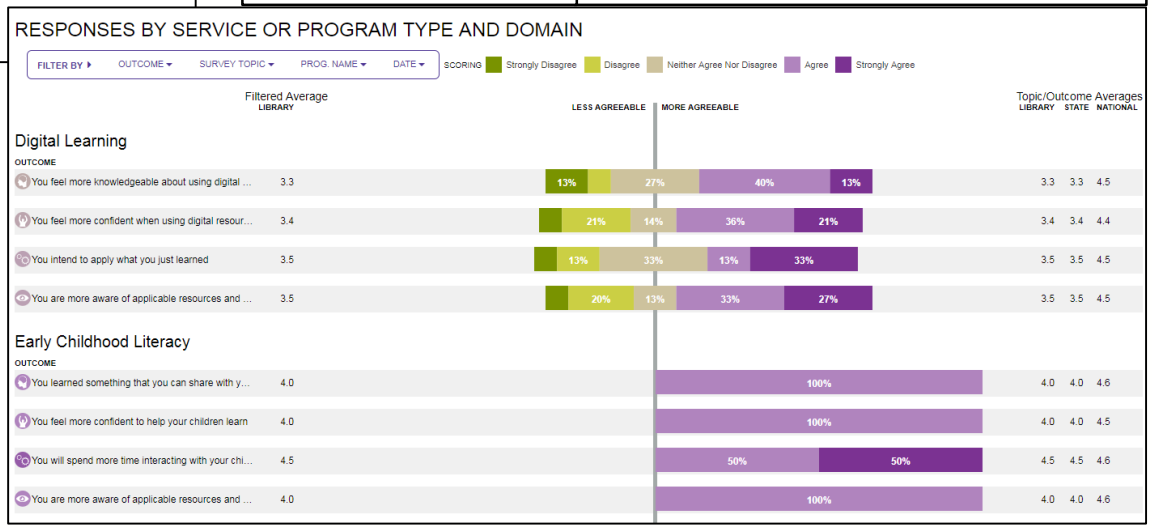
Data Dashboard











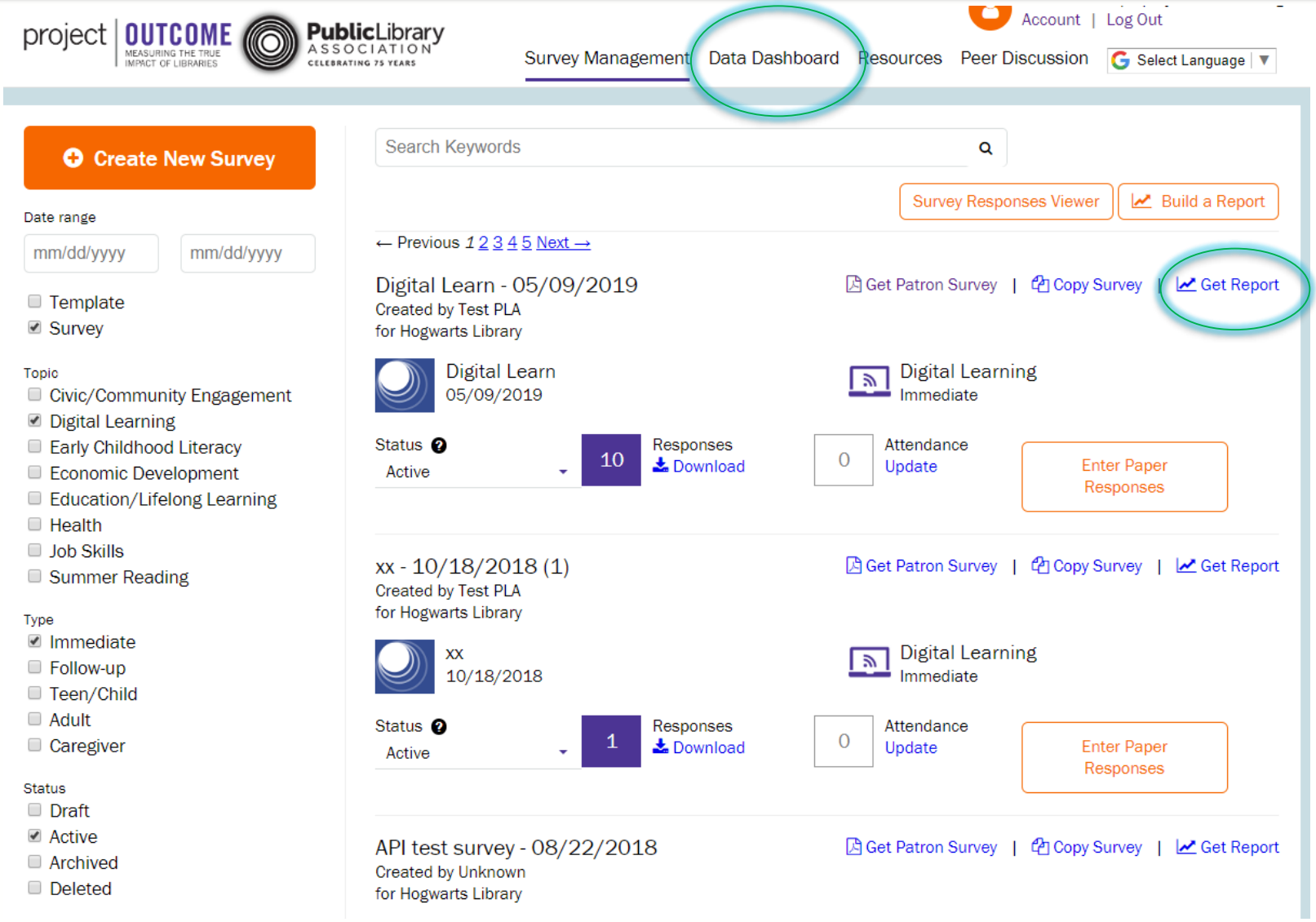
Benefits of Project Outcome

- Capturing snapshot data
  - Short, simple surveys save time
  - Higher response rate from patrons
  - Open-ended comments are goldmine

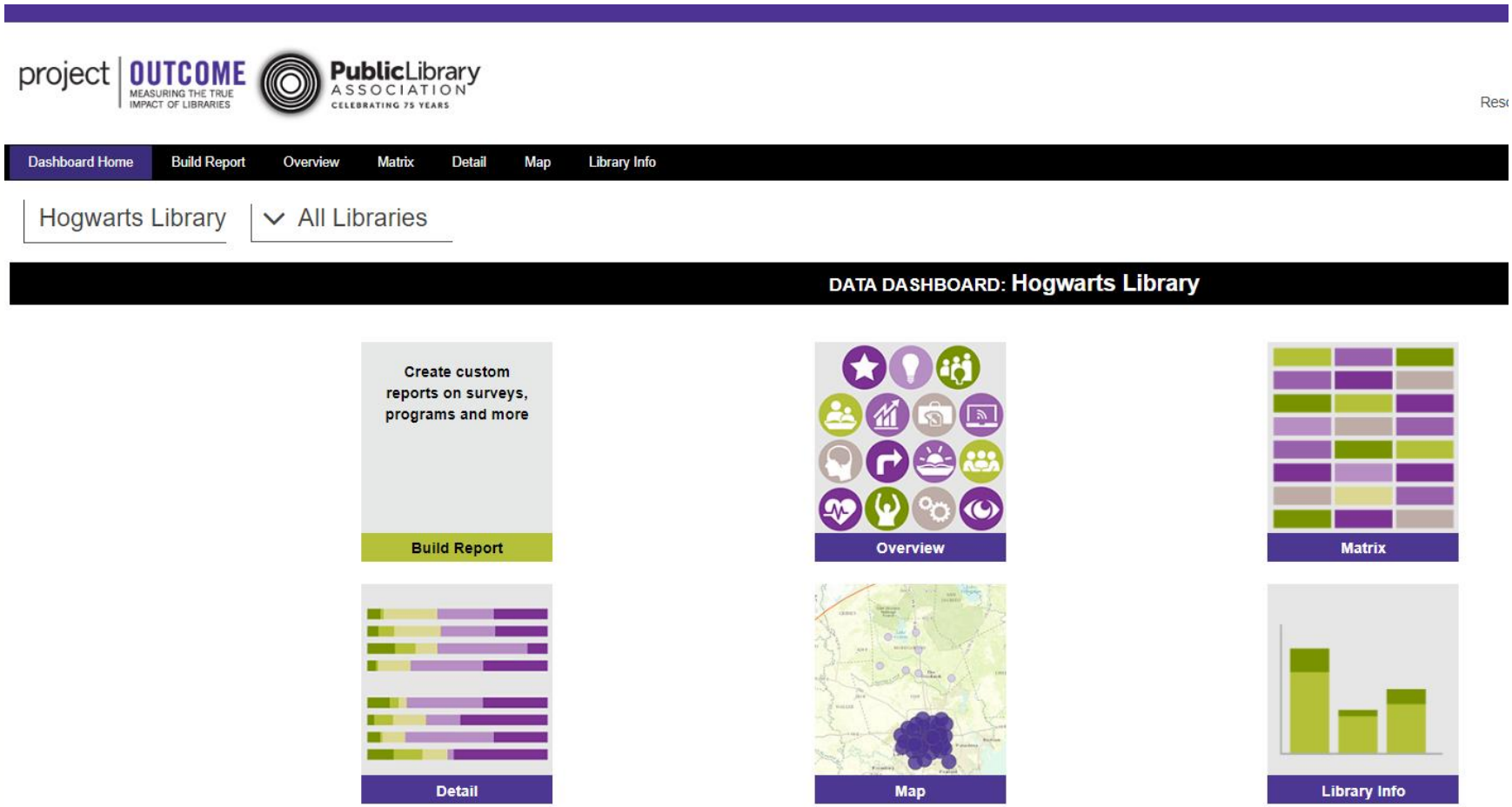
- We've done the heavy lifting for you!
  - Real-time results
  - Data visualizations
  - Ready-to-use reports

Project Outcome Data Visualization

Survey Management



Data Dashboard: Overview



Data Dashboard: Overview

Hogwarts Library | All Libraries

IMMEDIATE SURVEY | FOLLOW UP SURVEY

Scoring 1.0 — 5.0

Strongly Disagree — Strongly Agree

Average Score is calculated by assigning a 1- 5 value to each Likert Scale answer (Strongly Disagree to Strongly Agree). Aggregated responses are then averaged by weighting to these categories to come up with an aggregate score for each question, which can also be aggregated further to larger groups of libraries.

TOPIC

Civic/Community Engagement
3.2
Total Survey Responses for System: 52
State/Prov. Average: 3.2 (Total Survey Responses: 93)
National Average: 4.1 (Total Survey Responses: 8,046)
Total Average: 4.1 (Total Survey Responses: 8,690)

Digital Learning
3.5
Total Survey Responses for System: 63
State/Prov. Average: 3.6 (Total Survey Responses: 93)
National Average: 4.5 (Total Survey Responses: 22,394)
Total Average: 4.5 (Total Survey Responses: 25,051)

Early Childhood Literacy
3.4
Total Survey Responses for System: 13
State/Prov. Average: 3.8 (Total Survey Responses: 31)
National Average: 4.5 (Total Survey Responses: 41,139)
Total Average: 4.5 (Total Survey Responses: 45,950)

Education/Lifelong Learning
3.5
Total Survey Responses for System: 18
State/Prov. Average: 3.6 (Total Survey Responses: 50)
National Average: 4.5 (Total Survey Responses: 82,353)
Total Average: 4.5 (Total Survey Responses: 87,964)

OUTCOME

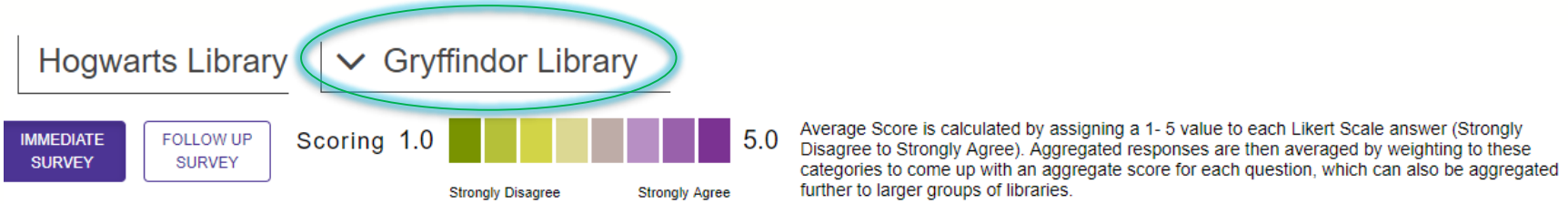
Knowledge
3.7
Total Responses for System: 426
State/Prov. Average: 3.5
National Average: 4.4
Total Average: 4.4

Confidence
3.6
Total Responses for System: 427
State/Prov. Average: 3.5
National Average: 4.3
Total Average: 4.3

Application / New Skills
3.6
Total Responses for System: 426
State/Prov. Average: 3.6
National Average: 4.4
Total Average: 4.4

Awareness of Resources
3.7
Total Responses for System: 424
State/Prov. Average: 3.6
National Average: 4.4
Total Average: 4.4

Data Dashboard: Overview @ Outlet Level



Average Score is calculated by assigning a 1- 5 value to each Likert Scale answer (Strongly Disagree to Strongly Agree). Aggregated responses are then averaged by weighting to these categories to come up with an aggregate score for each question, which can also be aggregated further to larger groups of libraries.

TOPIC

Digital Learning
4.1
Total Survey Responses for Outlet: 13
State/Prov. Average: 3.6 (Total Survey Responses: 103)
National Average: 4.5 (Total Survey Responses: 22,406)
Total Average: 4.5 (Total Survey Responses: 25,063)

Education/Lifelong Learning
4.0
Total Survey Responses for Outlet: 1
State/Prov. Average: 3.7 (Total Survey Responses: 52)
National Average: 4.5 (Total Survey Responses: 82,360)
Total Average: 4.5 (Total Survey Responses: 87,971)

Summer Reading Caregiver
4.2
Total Survey Responses for Outlet: 2
State/Prov. Average: 4.2 (Total Survey Responses: 277)
National Average: 4.2 (Total Survey Responses: 29,542)
Total Average: 4.2 (Total Survey Responses: 33,687)

OUTCOME

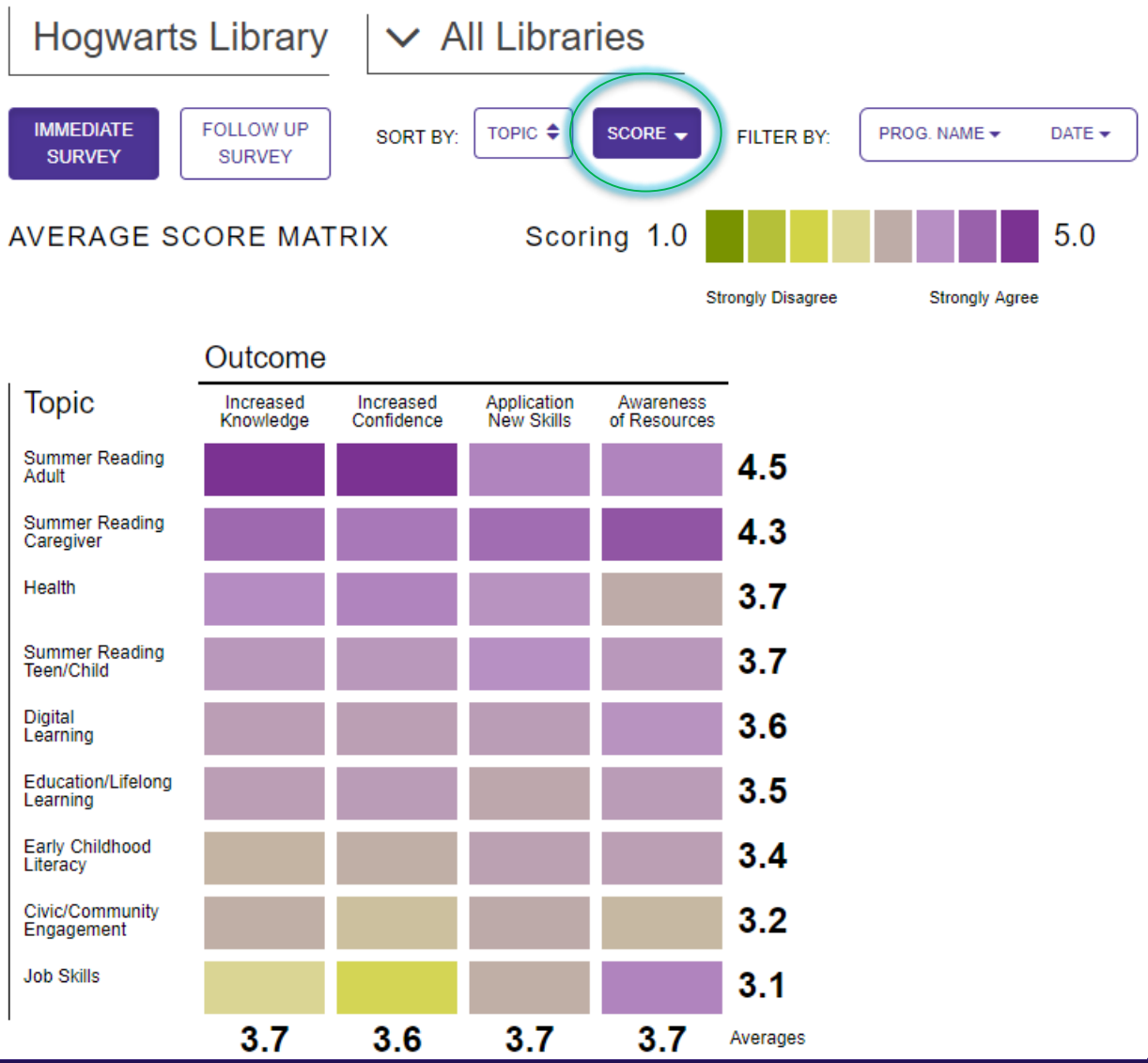
Knowledge
4.0
Total Responses for Outlet: 15
State/Prov. Average: 3.9
National Average: 4.5
Total Average: 4.5

Confidence
4.0
Total Responses for Outlet: 15
State/Prov. Average: 3.8
National Average: 4.3
Total Average: 4.3

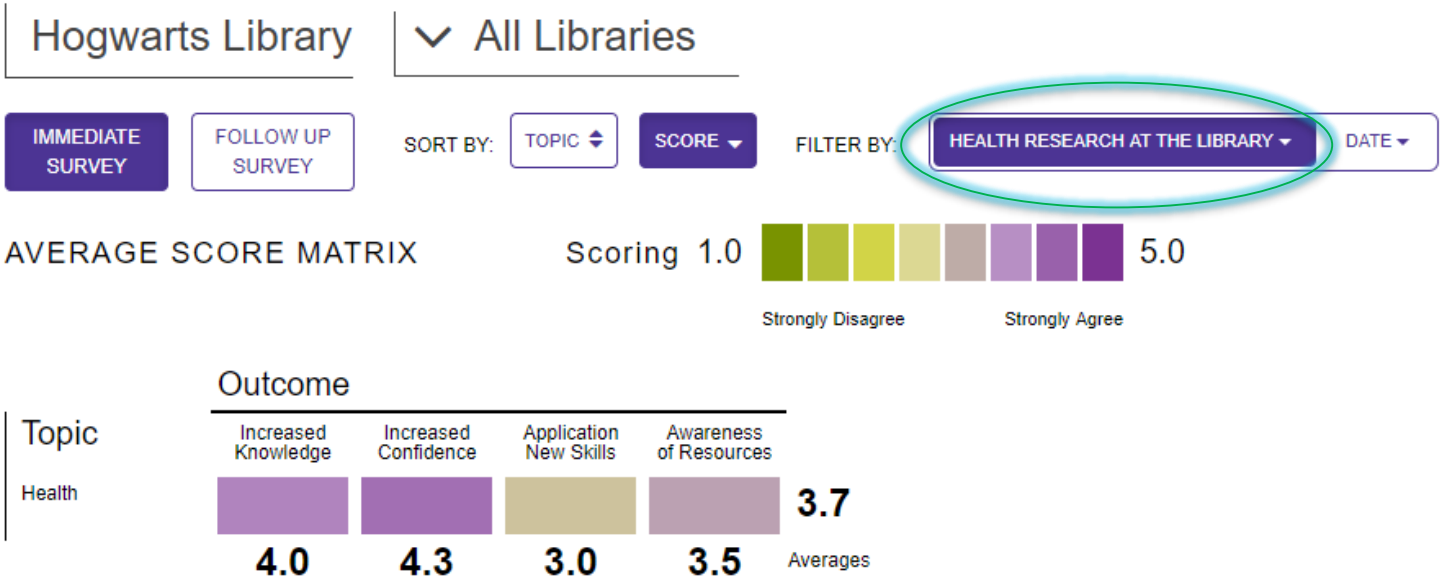
Application / New Skills
3.9
Total Responses for Outlet: 15
State/Prov. Average: 3.9
National Average: 4.4
Total Average: 4.4

Awareness of Resources
4.7
Total Responses for Outlet: 13
State/Prov. Average: 3.7
National Average: 4.5
Total Average: 4.5

Data Dashboard: Matrix

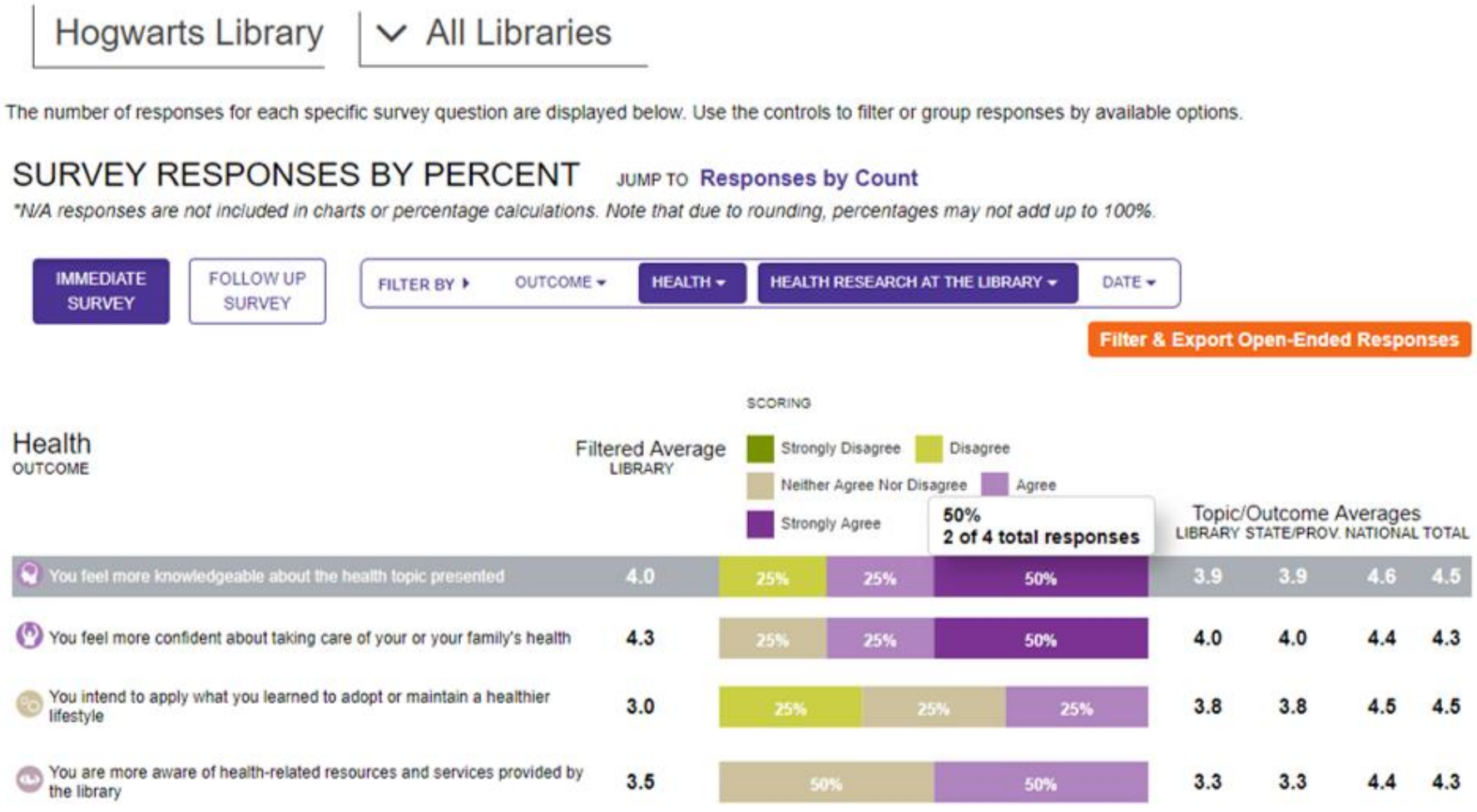


Data Dashboard: Matrix

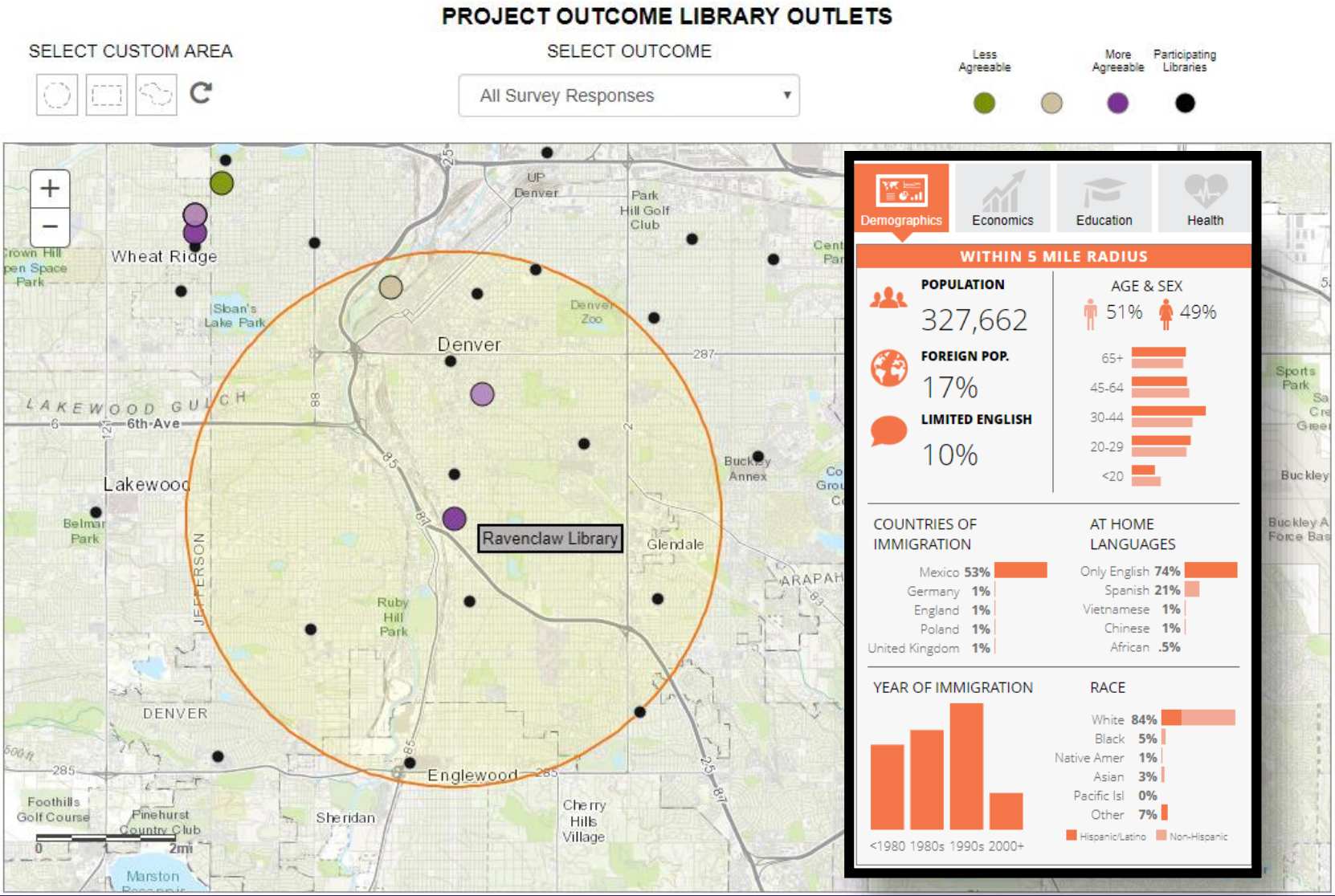


Data Dashboard: Matrix

Data Dashboard: Detail



Data Dashboard: Map



Data Dashboard: Custom Report

United States of America

Survey Results and Community Implications

REPORT INFORMATION

Topic: Digital Learning
Date Range: None

UNITED STATES OF AMERICA SURVEY WORK

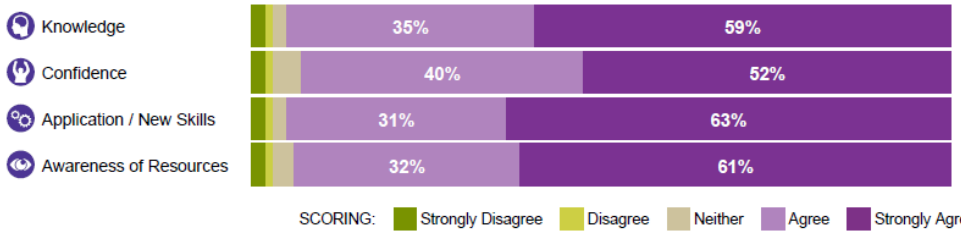
United States of America staff distributed surveys to program participants to collect data and insights about how their digital learning services and programs are supporting community needs. United States of America surveyed patrons using the Project Outcome Digital Learning Survey, which measures the impact of services designed to access technology, build technology-related skills and confidence, and make beneficial use of digital resources to meet community needs. A total of **22410** survey responses were collected.

Results

A total of 22410 survey responses were collected. Of the percentage of patrons surveyed who either **agreed or strongly agreed** that they benefited from the service or program:

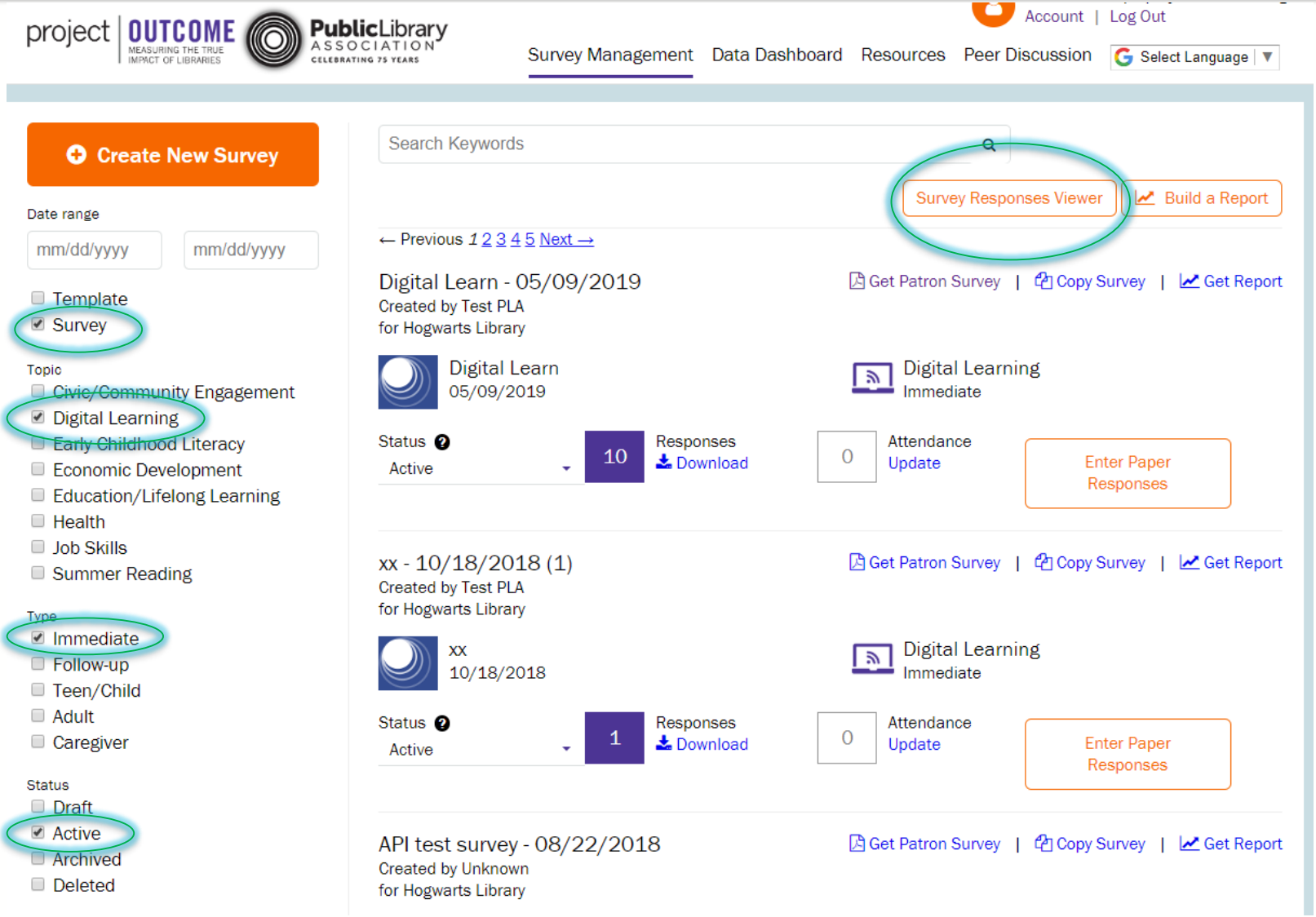
- **94%** felt more knowledgeable about using digital resources
- **94%** intend to apply what they learned
- **92%** felt more confident when using digital resources
- **93%** were more aware of resources and services provided by the library

The full results of the survey(s) are shown below. *(Note that due to rounding, percentages may not add up to 100%)*

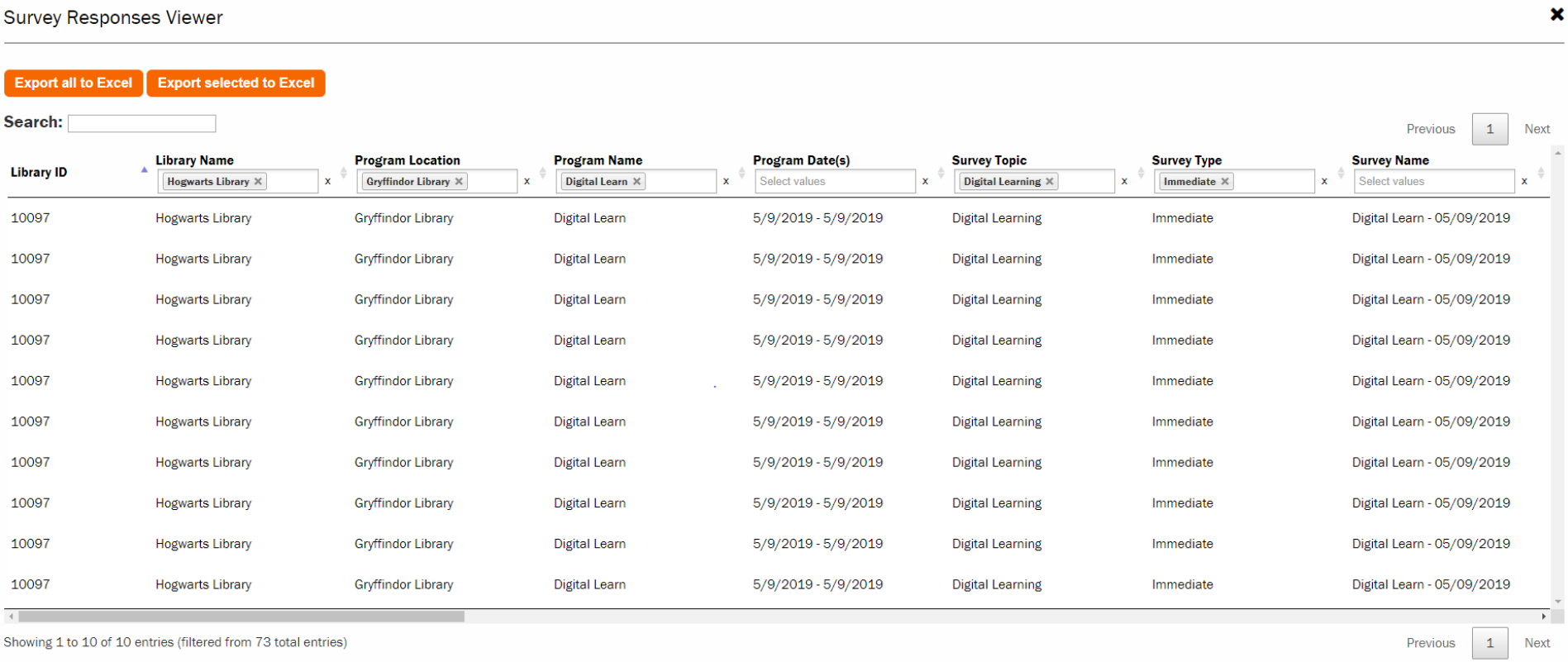


	Selected Criteria Average	Digital Learning Topic Averages	
	Country	Country	Total
Knowledge	4.5	4.5	4.5
Confidence	4.4	4.4	4.4
Application / New Skills	4.5	4.5	4.5
Awareness of Resources	4.5	4.5	4.5

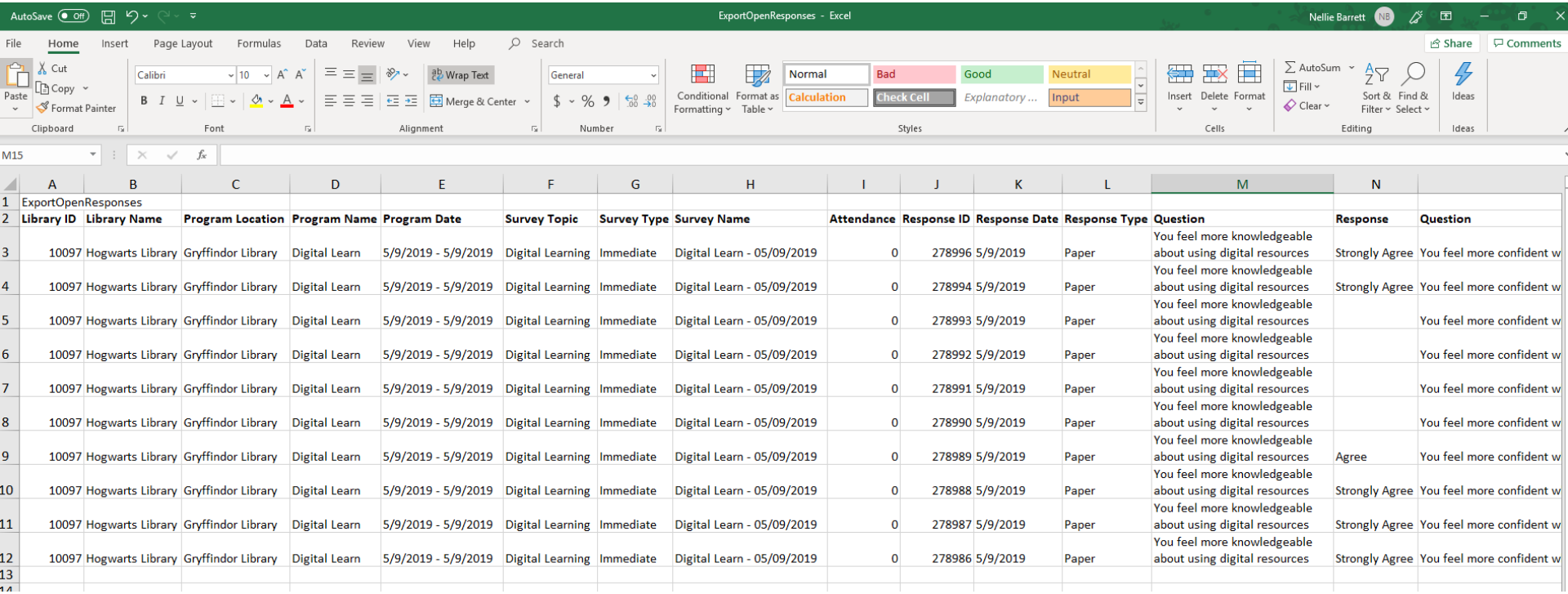
Survey Responses Viewer



Survey Responses Viewer



Survey Responses Viewer: Excel Export

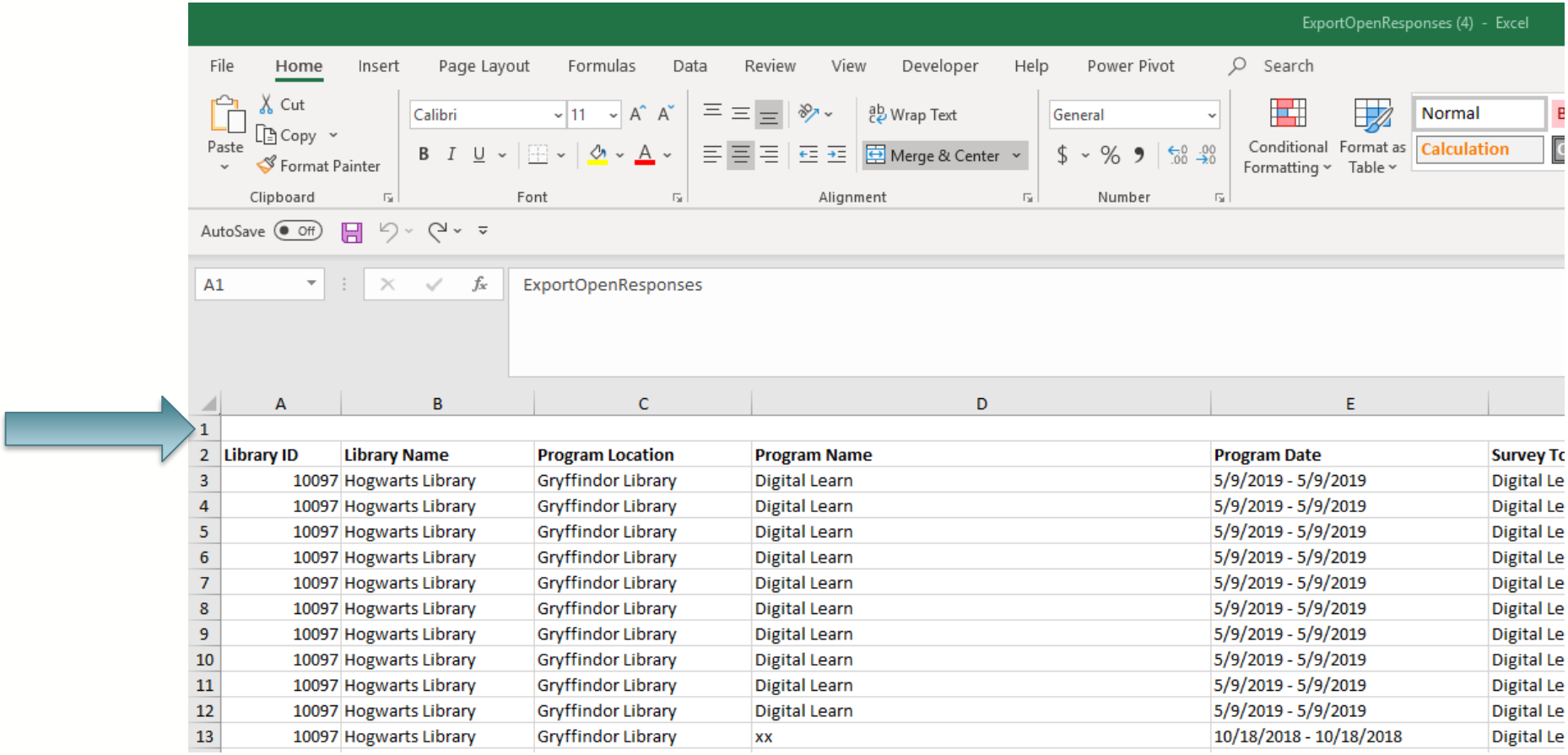


ExportOpenResponses - Excel

Library ID	Library Name	Program Location	Program Name	Program Date	Survey Topic	Survey Type	Survey Name	Attendance	Response ID	Response Date	Response Type	Question	Response	Question
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278996	5/9/2019	Paper	You feel more knowledgeable about using digital resources	Strongly Agree	You feel more confident w
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278994	5/9/2019	Paper	You feel more knowledgeable about using digital resources	Strongly Agree	You feel more confident w
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278993	5/9/2019	Paper	You feel more knowledgeable about using digital resources		You feel more confident w
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278992	5/9/2019	Paper	You feel more knowledgeable about using digital resources		You feel more confident w
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278991	5/9/2019	Paper	You feel more knowledgeable about using digital resources		You feel more confident w
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278990	5/9/2019	Paper	You feel more knowledgeable about using digital resources		You feel more confident w
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278989	5/9/2019	Paper	You feel more knowledgeable about using digital resources	Agree	You feel more confident w
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278988	5/9/2019	Paper	You feel more knowledgeable about using digital resources	Strongly Agree	You feel more confident w
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278987	5/9/2019	Paper	You feel more knowledgeable about using digital resources	Strongly Agree	You feel more confident w
10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019	0	278986	5/9/2019	Paper	You feel more knowledgeable about using digital resources	Strongly Agree	You feel more confident w

Creating a Simple Chart in Excel Using Pivot

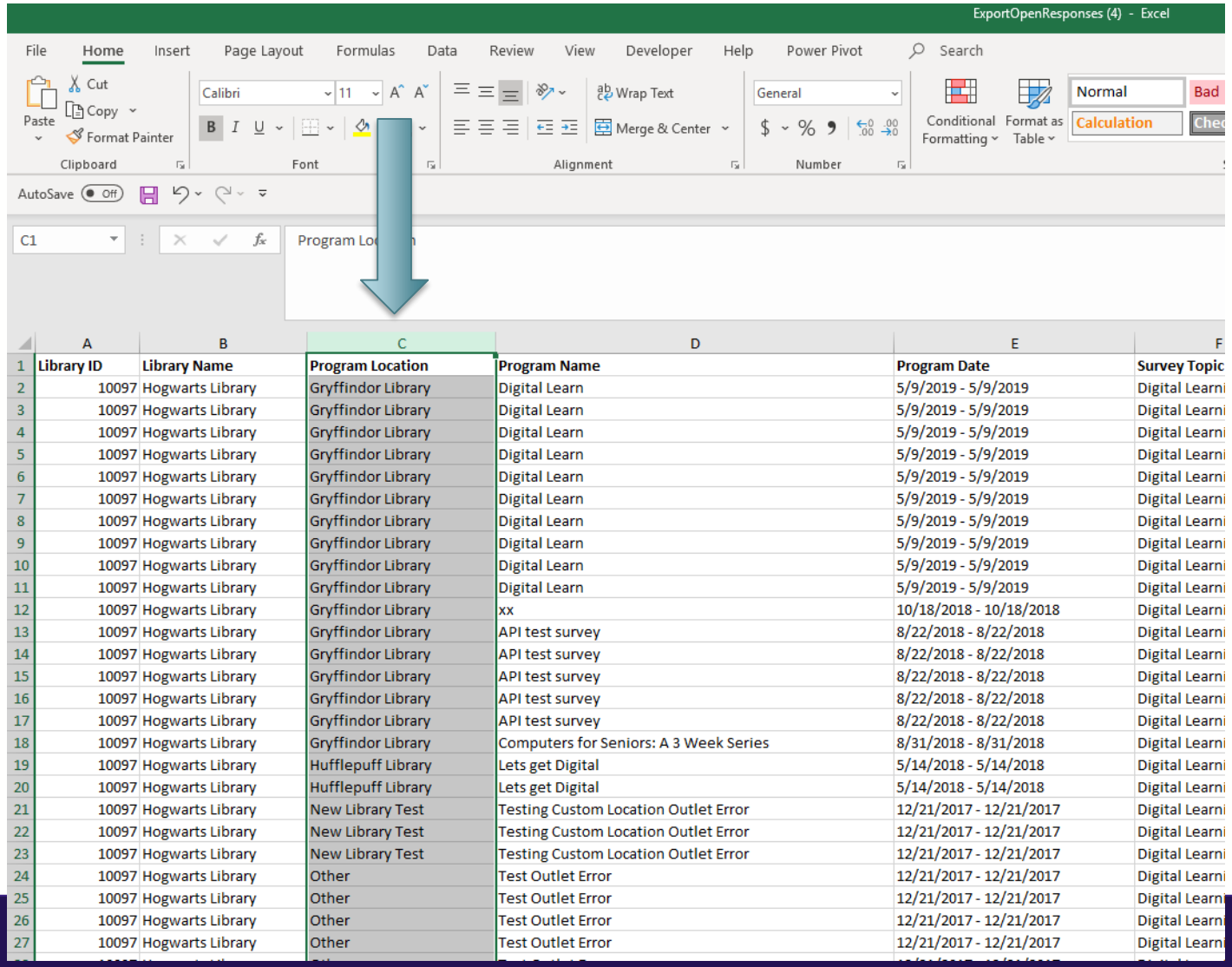
Step 1: Delete first blank row so excel recognized column names



	A	B	C	D	E	
1						
2	**Library ID**	**Library Name**	**Program Location**	**Program Name**	**Program Date**	**Survey To**
3	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
4	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
5	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
6	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
7	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
8	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
9	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
10	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
11	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
12	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Le
13	10097	Hogwarts Library	Gryffindor Library	xx	10/18/2018 - 10/18/2018	Digital Le

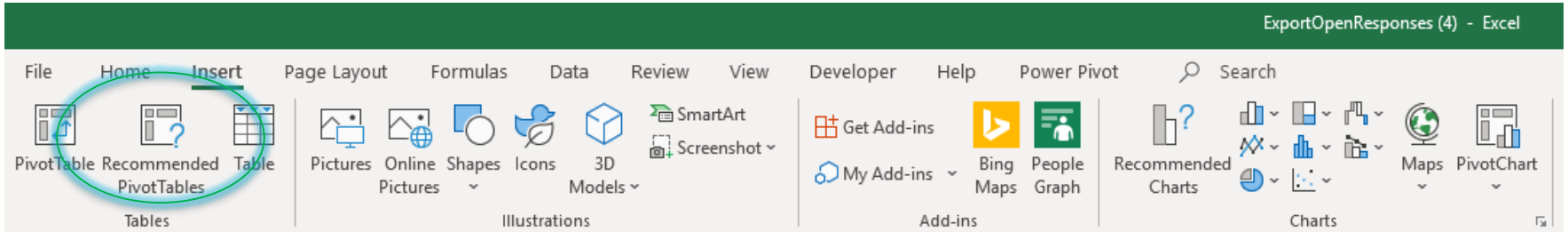
Creating a Simple Chart in Excel Using Pivot

Step 2: Select the column you want to use in your chart



Creating a Simple Chart in Excel Using Pivot

Step 3: Navigate to the “Insert” menu option and click on the “Recommended PivotTable” icon

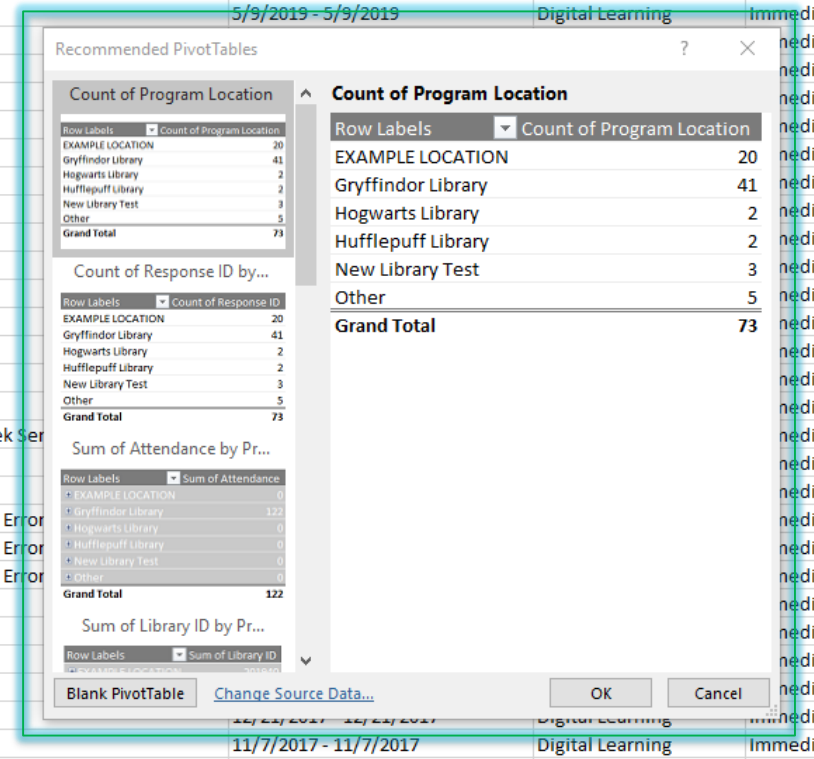


	A	B	C	D	E	
1	Library ID	Library Name	Program Location	Program Name	Program Date	Survey To
2	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
3	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
4	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
5	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
6	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
7	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
8	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
9	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
10	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
11	10097	Hogwarts Library	Gryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Lea
12	10097	Hogwarts Library	Gryffindor Library	xx	10/18/2018 - 10/18/2018	Digital Lea
13	10097	Hogwarts Library	Gryffindor Library	API test survey	8/22/2018 - 8/22/2018	Digital Lea
14	10097	Hogwarts Library	Gryffindor Library	API test survey	8/22/2018 - 8/22/2018	Digital Lea
15	10097	Hogwarts Library	Gryffindor Library	API test survey	8/22/2018 - 8/22/2018	Digital Lea
16	10097	Hogwarts Library	Gryffindor Library	API test survey	8/22/2018 - 8/22/2018	Digital Lea

Creating a Simple Chart in Excel Using Pivot

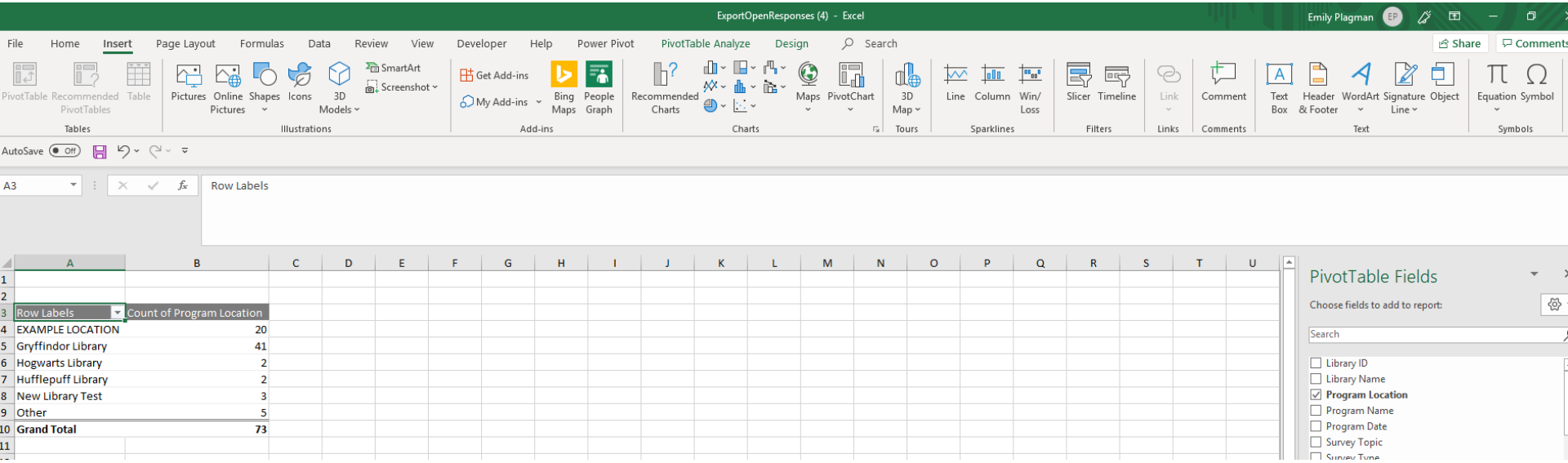
Step 4: Select the table that calculates the type of count you want and click “ok”

C	D	E	F	G	H
ogram Location	**Program Name**	**Program Date**	**Survey Topic**	**Survey Type**	**Survey Name**
ryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019
ryffindor Library	Digital Learn	5/9/2019 - 5/9/2019	Digital Learning	Immediate	Digital Learn - 05/09/2019
ryffindor Library	Digital Learn			ediate	Digital Learn - 05/09/2019
ryffindor Library	Digital Learn			ediate	Digital Learn - 05/09/2019
ryffindor Library	Digital Learn			ediate	Digital Learn - 05/09/2019
ryffindor Library	Digital Learn			ediate	Digital Learn - 05/09/2019
ryffindor Library	Digital Learn			ediate	Digital Learn - 05/09/2019
ryffindor Library	Digital Learn			ediate	Digital Learn - 05/09/2019
ryffindor Library	Digital Learn			ediate	Digital Learn - 05/09/2019
ryffindor Library	Digital Learn			ediate	Digital Learn - 05/09/2019
ryffindor Library	xx			ediate	xx - 10/18/2018 (1)
ryffindor Library	API test survey			ediate	API test survey - 08/22/2018
ryffindor Library	API test survey			ediate	API test survey - 08/22/2018
ryffindor Library	API test survey			ediate	API test survey - 08/22/2018
ryffindor Library	API test survey			ediate	API test survey - 08/22/2018
ryffindor Library	API test survey			ediate	API test survey - 08/22/2018
ryffindor Library	Computers for Seniors: A 3 Week Ser			ediate	Computers for Seniors: A 3 Week Series - 08/31/2018
ufflepuff Library	Lets get Digital			ediate	Lets get Digital - 05/14/2018
ufflepuff Library	Lets get Digital			ediate	Lets get Digital - 05/14/2018
ew Library Test	Testing Custom Location Outlet Error			ediate	Testing Custom Location Outlet Error - 12/21/2017
ew Library Test	Testing Custom Location Outlet Error			ediate	Testing Custom Location Outlet Error - 12/21/2017
ew Library Test	Testing Custom Location Outlet Error			ediate	Testing Custom Location Outlet Error - 12/21/2017
ther	Test Outlet Error			ediate	Test Outlet Error - 12/21/2017
ther	Test Outlet Error			ediate	Test Outlet Error - 12/21/2017
ther	Test Outlet Error			ediate	Test Outlet Error - 12/21/2017
ther	Test Outlet Error			ediate	Test Outlet Error - 12/21/2017
ther	Test Outlet Error			ediate	Test Outlet Error - 12/21/2017
ogwarts Library	Joe's DL	11/7/2017 - 11/7/2017	Digital Learning	Immediate	Joe's DL - 11/07/2017
ogwarts Library	Joe's DL	11/7/2017 - 11/7/2017	Digital Learning	Immediate	Joe's DL - 11/07/2017



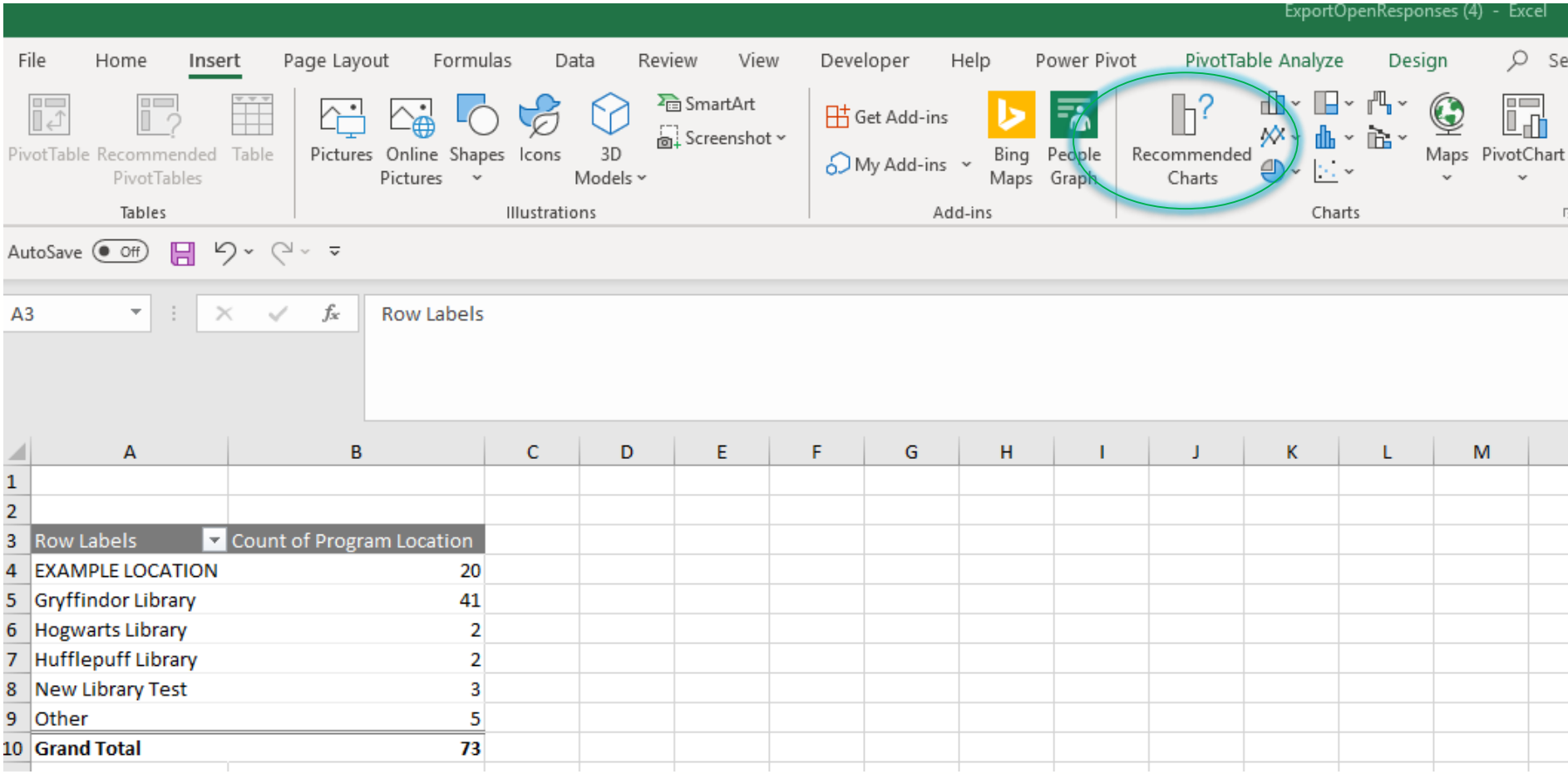
Creating a Simple Chart in Excel Using Pivot

Step 5a: A new tab will open with the summary data



Creating a Simple Chart in Excel Using Pivot

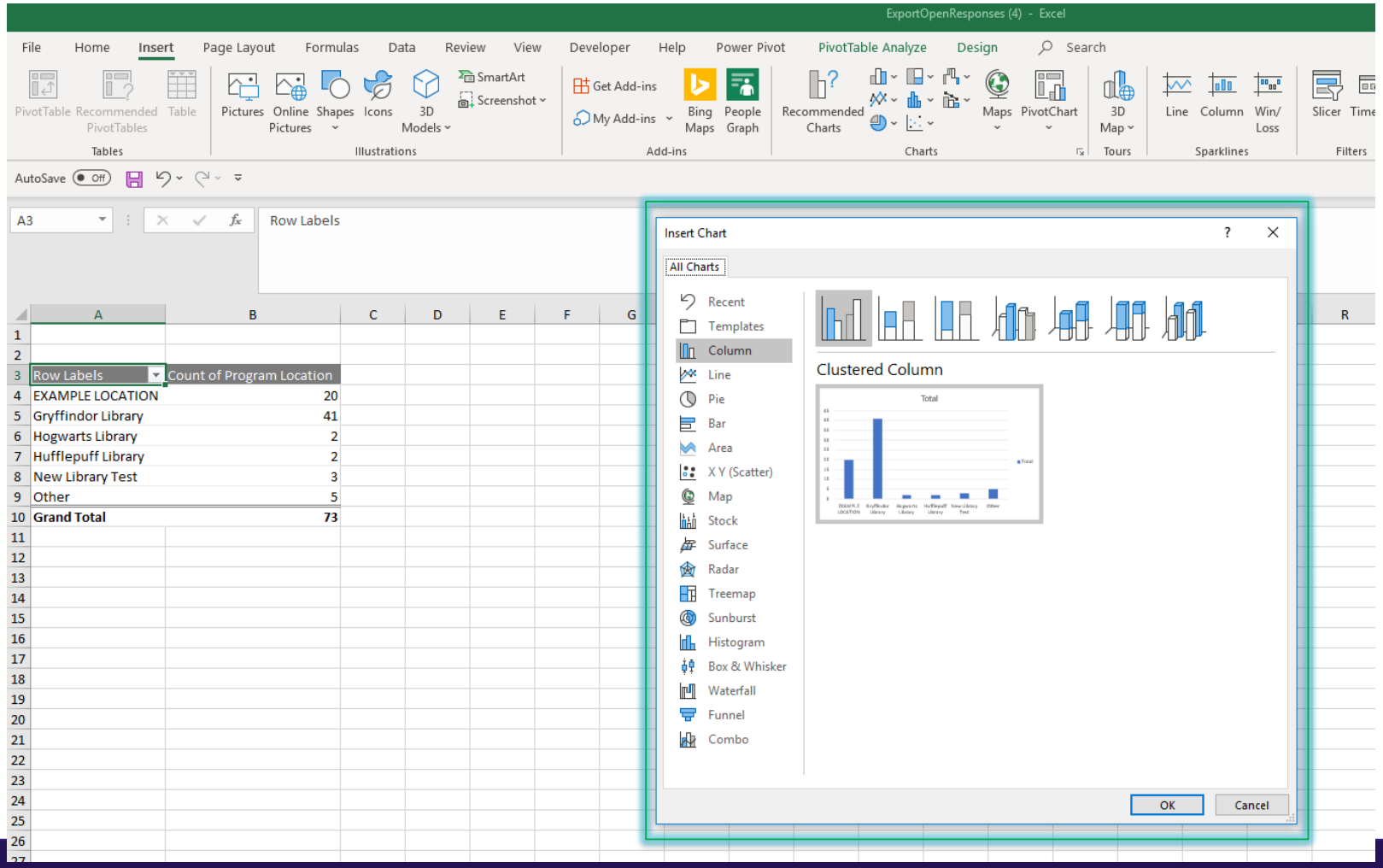
Step 5b: Navigate to the “Insert” menu again and selected “Recommended Charts”



	A	B	C	D	E	F	G	H	I	J	K	L	M
1													
2													
3	Row Labels	Count of Program Location											
4	EXAMPLE LOCATION	20											
5	Gryffindor Library	41											
6	Hogwarts Library	2											
7	Hufflepuff Library	2											
8	New Library Test	3											
9	Other	5											
10	**Grand Total**	**73**											

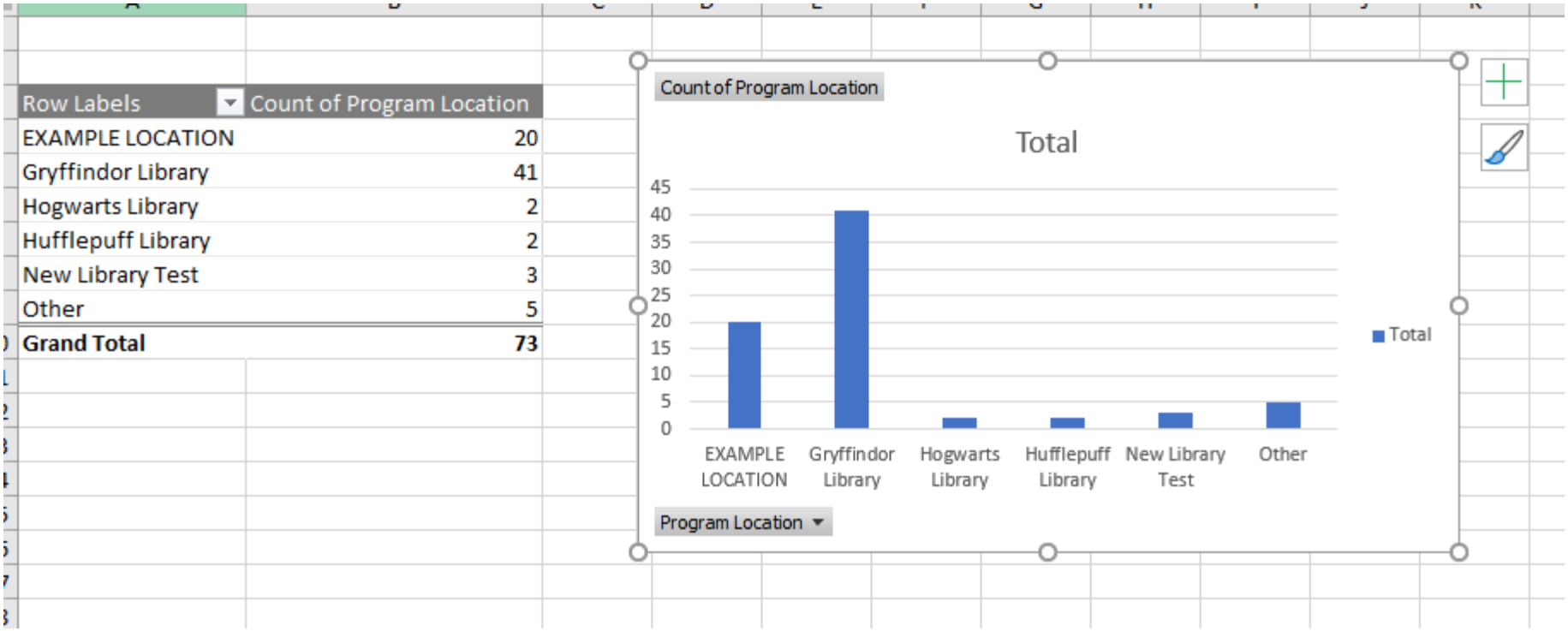
Creating a Simple Chart in Excel Using Pivot

Step 6a: Select the chart type you want and click “ok”



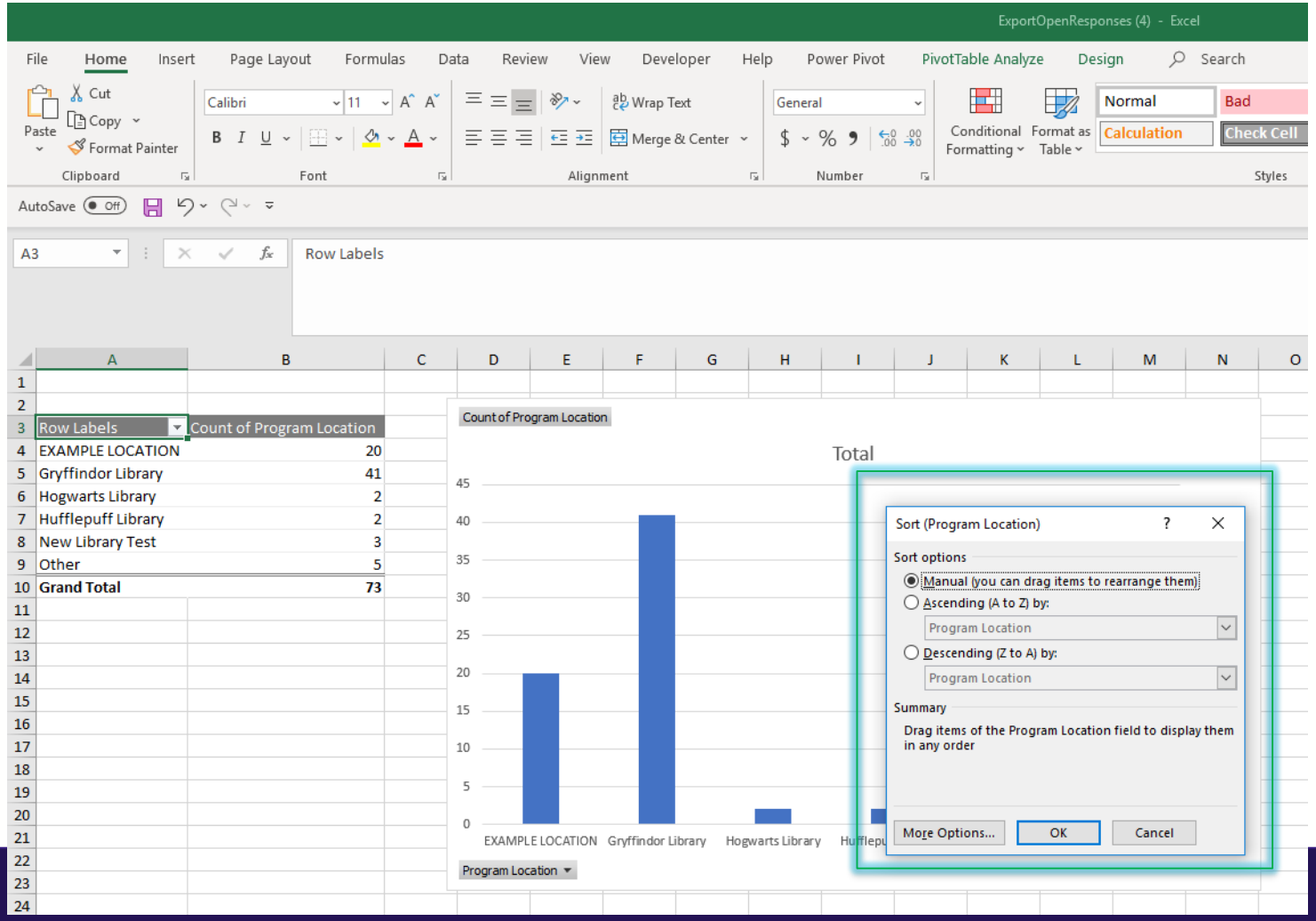
Creating a Simple Chart in Excel Using Pivot

Step 6b: The chart will now display next to the table



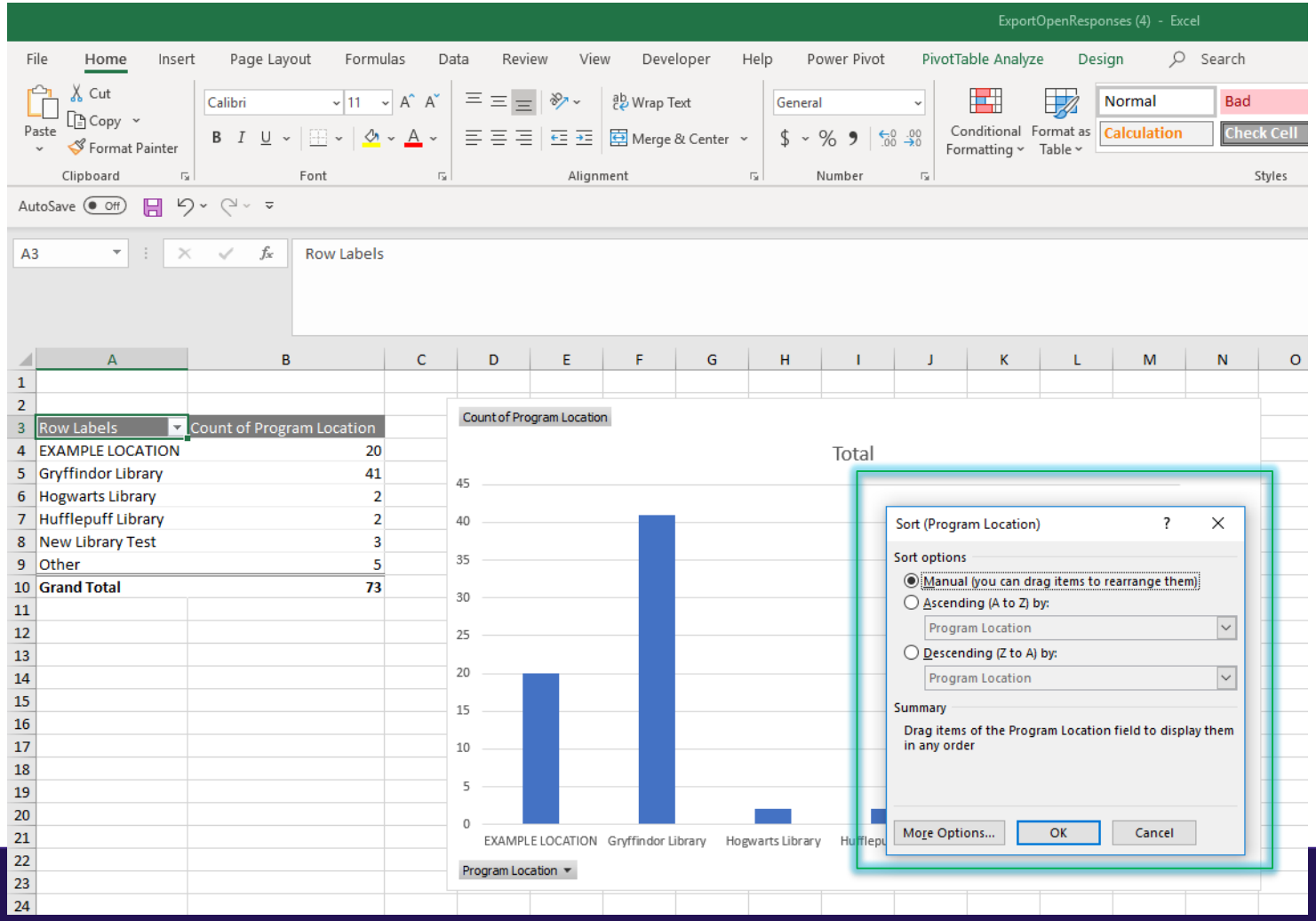
Creating a Simple Chart in Excel Using Pivot

Step 7: Your chart has been created! To sort by count, select the drop down icon next to “Row Labels” and choose the “More sort options” menu item



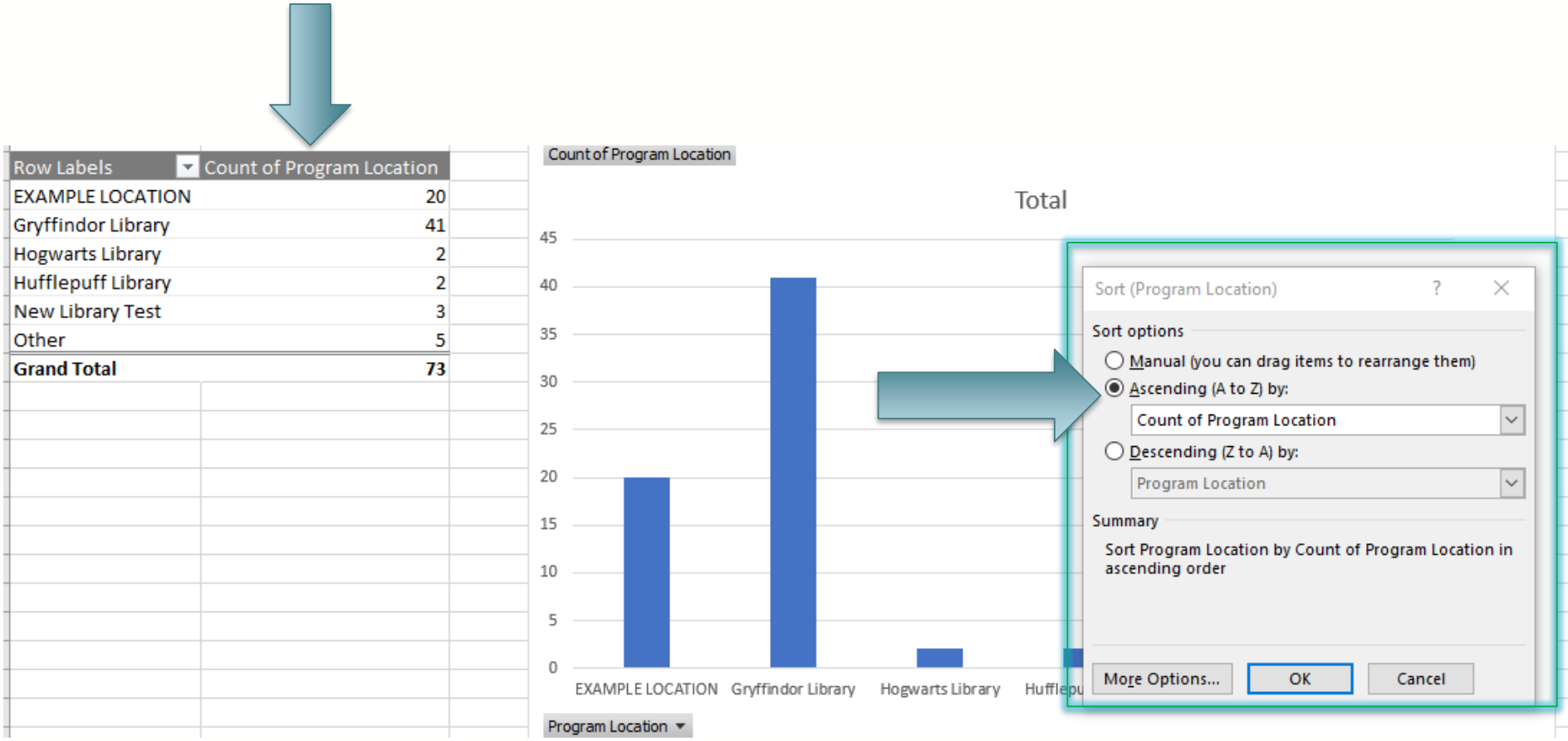
Creating a Simple Chart in Excel Using Pivot

Step 7: Your chart has been created! To sort by count, select the drop down icon next to “Row Labels” and choose the “More sort options” menu item



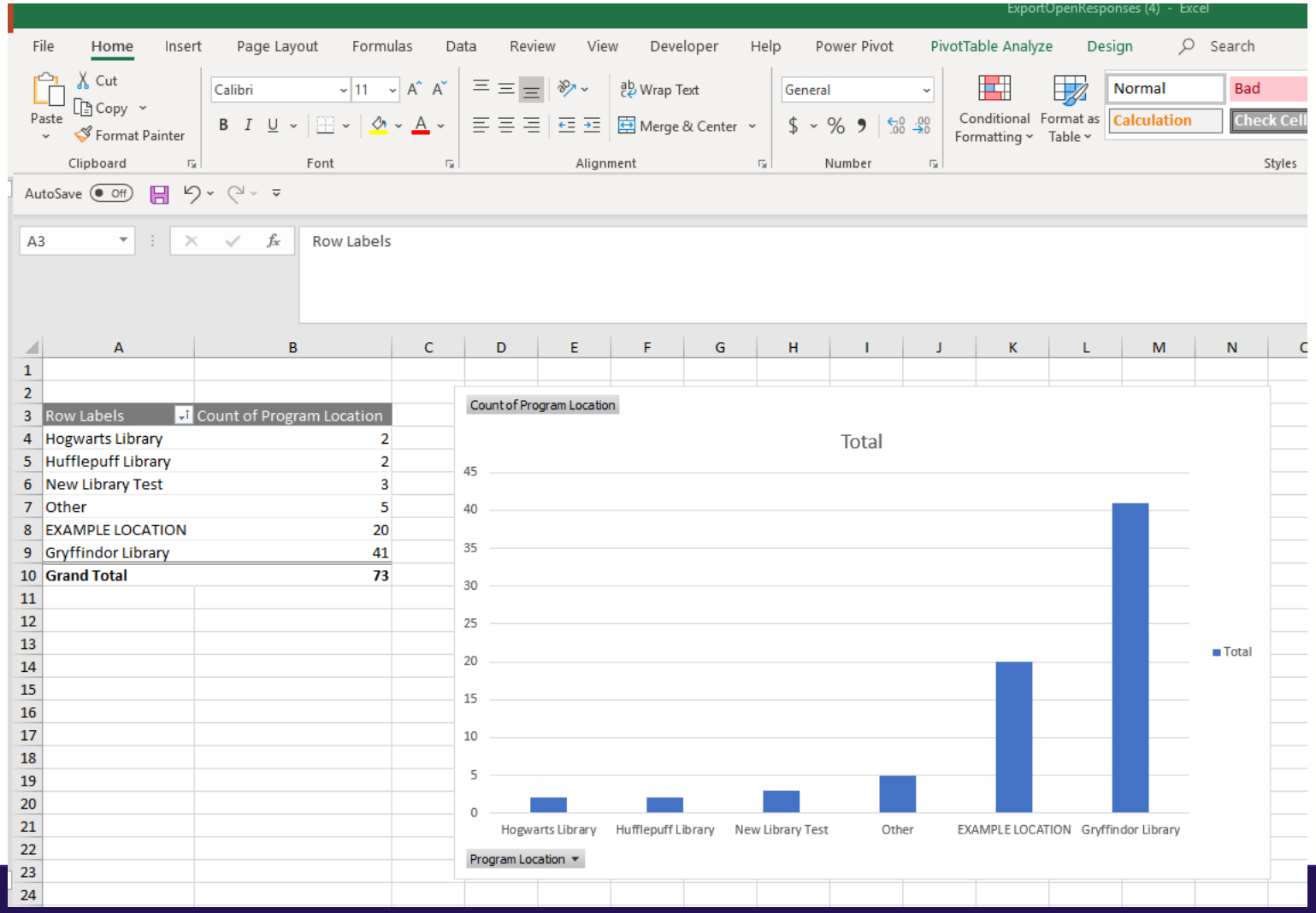
Creating a Simple Chart in Excel Using Pivot

Step 8: Choose the order and column name you would like to sort by



Creating a Simple Chart in Excel Using Pivot

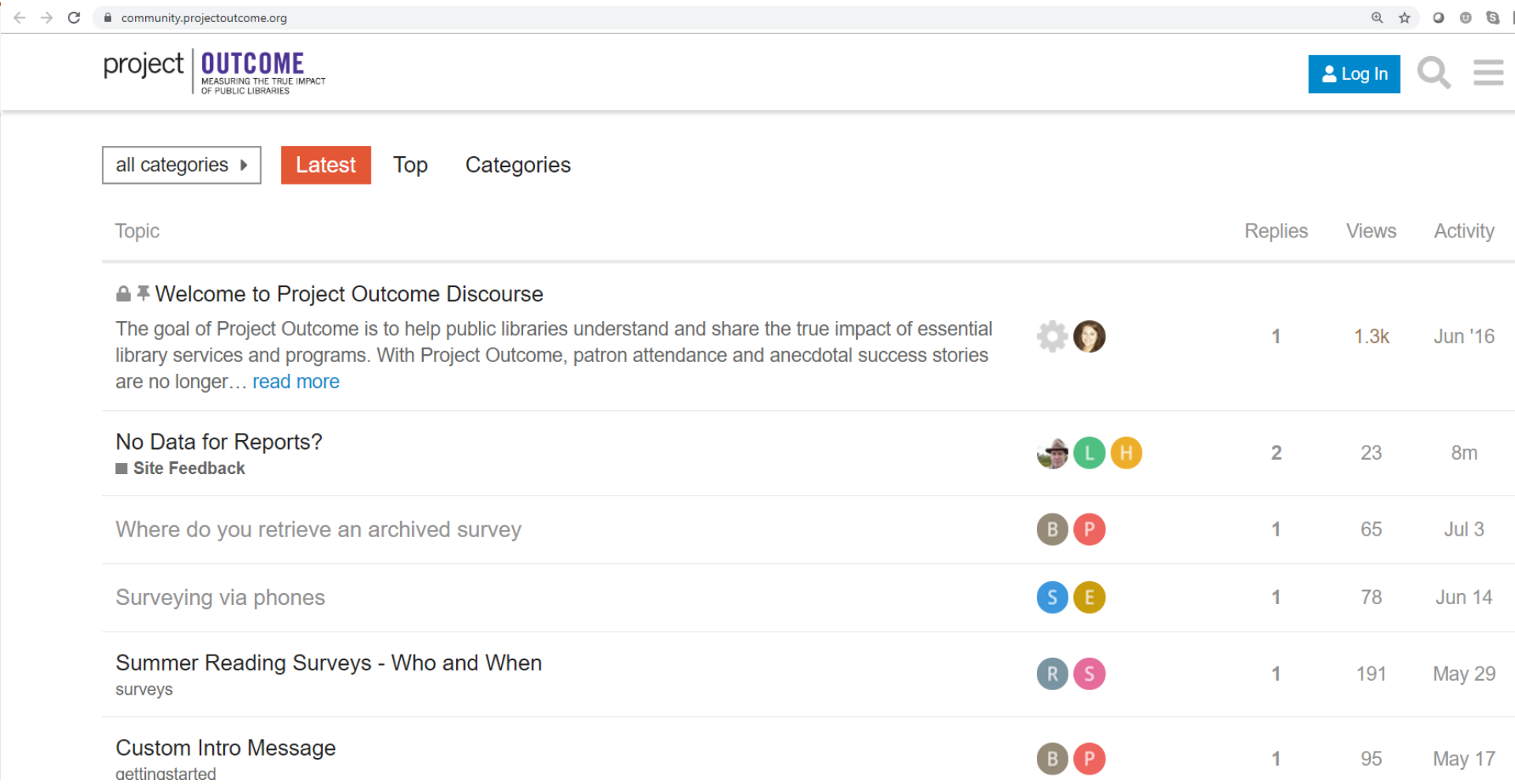
Step 9: Edit your chart columns and share!



Building Effective Visualizations & Design Principles

Wrap-Up & Questions

Peer Discussion Board



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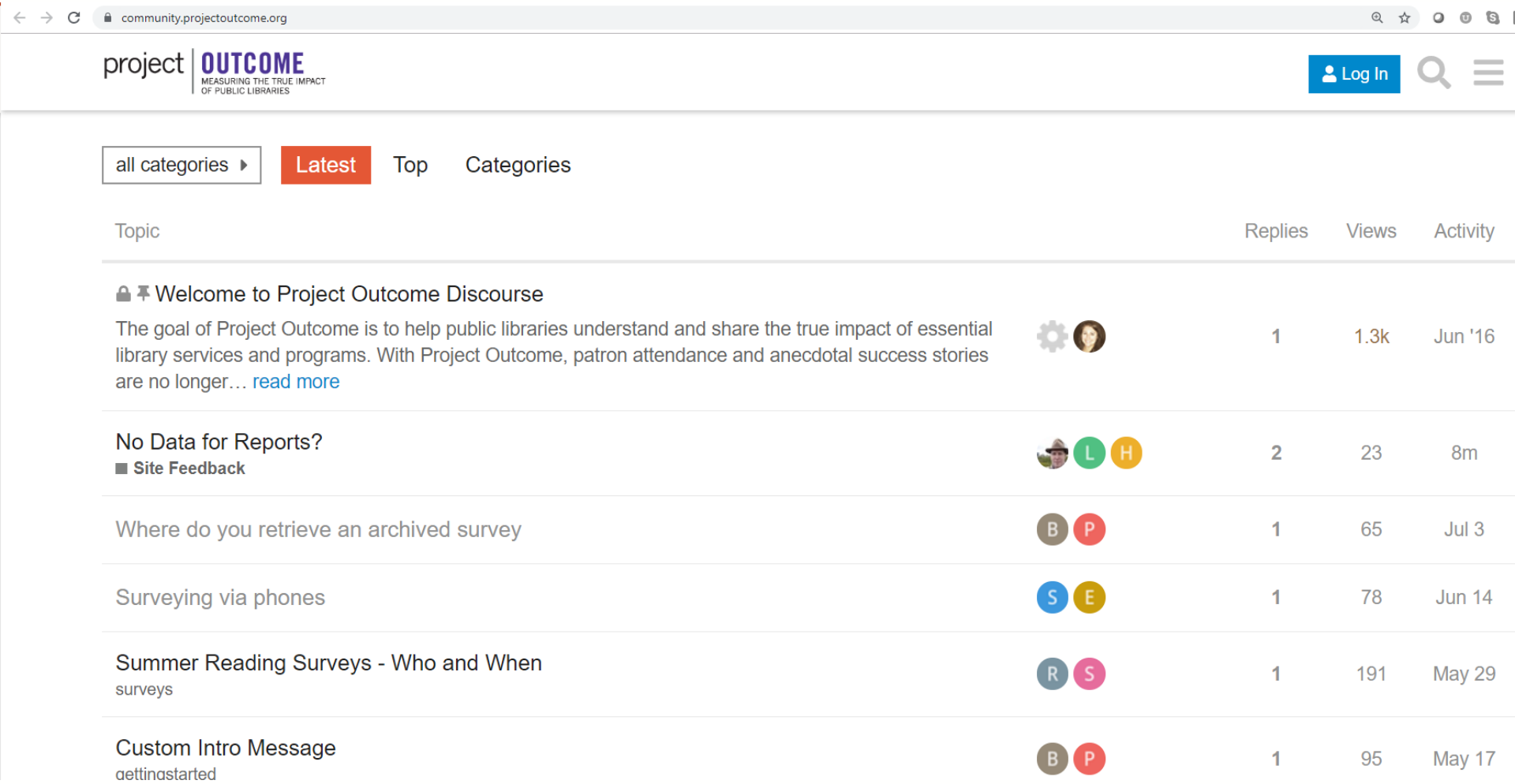
PLA Interest Groups on ALA Connect

PLA Interest Group: Data and Measurement

Available to PLA members

Connect.ala.org/pla/communities/pla-interest-groups

Peer Discussion Board



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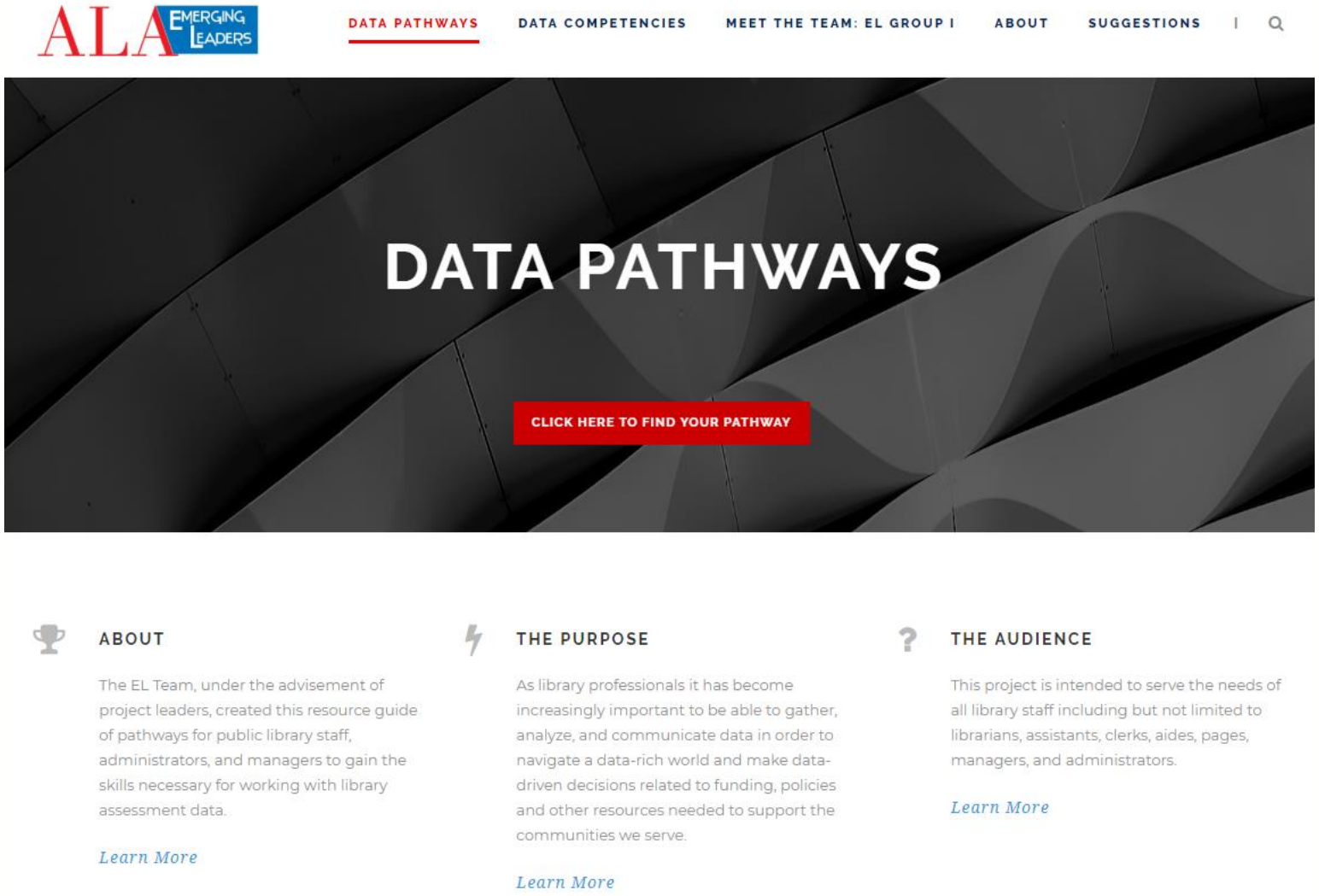
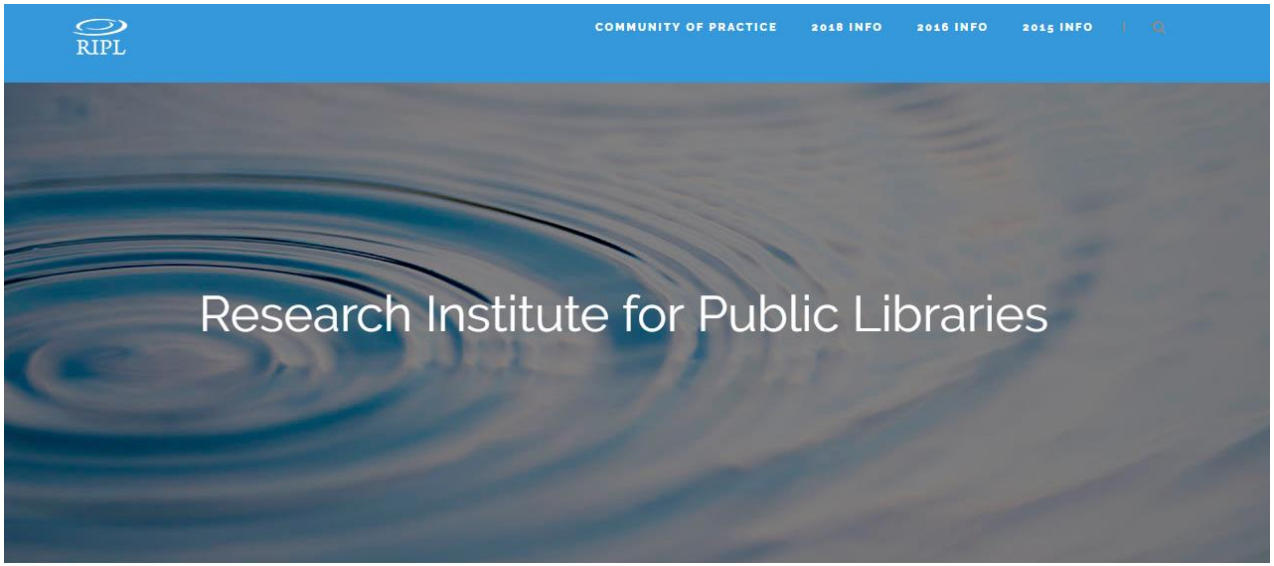
Find Your Data Pathway



https://ripl.lrs.org/data-pathways/

Additional Resources

Research Institute for Public Libraries



WHAT'S NEW?

The Colorado State Library and the Colorado Library Consortium are excited to announce that the next Research Institute for Public Libraries (RIPL) national event will occur **July 12-15, 2020**, at the Eaglewood Resort in the Chicago suburb of Itasca, Illinois.

RIPL began in 2015 as an immersive, bootcamp-style event for public library staff to learn practical methods for gathering, analyzing, and using data for planning, management, and communicating impact. Now, after 3 national events and 25 regional events, it's time for the next wave.

At the 2020 national event, we will debut a new format, tailored to meeting the needs of those just getting started with data and evaluation as well as data geeks, and for people new to RIPL as well as RIPL alumni. What's not changing? Hands-on, experiential learning; an immersive, camp-like experience (with better accommodations!); and the opportunity to connect with instructors and library staff from around the US and beyond who are passionate about creating data-powered libraries.

https://ripl.lrs.org/

Share Your Feedback!

Please take our brief post-webinar survey so we can learn how to better serve your needs.

QUESTIONS?

Contact us:

Post any unanswered questions to community.projectoutcome.org

PLA: info@projectoutcome.org

Amanda Johnson: amanda.johnson@ncdcr.gov