Today's Presenter



Linda HofschireResearch Analyst,
Library Research Service,
Colorado State Library

Data Visualization for the Rest of Us: A Beginner's Guide

Linda Hofschire

Library Research Service, Colorado State Library www.lrs.org | @lindahofschire

SCHOOL LIBRARY IMPACT STUDIES



School Libraries & Student Achievement

School Librarians are Linked to Improved Standardized Reading Test Scores

Studies conducted over the past two decades, both in Colorado and nationwide, show that students in schools with endorsed librarians score better on standardized achievement tests in mading, compared with students in schools without endorsed librarians.







School

Librarian

Improved Reading Scores

This increase in scores exists regardless of:

Student Poverty Level



In a Colorade study, the presence of school librarians positively impacted students' standardized reading scores even when controlling for student poverty (free and reduced-cost must

Overall Staffing Losses



in a national study, even if schools had overall staff declines between 2004 and 2008, students' standardized reading scores were better in schools that maintained or gained a librarian during this time period.

What other school library characteristics are associated with better test scores?

School Librarians Teaching Information Literacy Skills to Students



Staffed by Endorsed Librarian'



School Librarians Providing



Larger & Newer Collections 54.5

Collaborative Planning Between School

Librarians & Teachers 1.4



Higher Expenditures 1.5,5



Extended Library & Staff Hours'



More Student Visits¹



Flexible Scheduling



See www.hs.arg/data-tools/school-literates/impact-studies/ for a list of school literary impact studies.

The state of the s

© 2013 Library Research Service Teacount net positive post forms and deep broken Library and deep broken.









The Internet Is a Zoo The Ideal Length of Everything Online Every piece of content should be as long as it takes to convey the message, and no longer.

THE IDEAL CHARACTER COUNT

SIDE NOTES

71-100



Tweets shorter than 100 characters have a 17% higher engagement rate.

f POSTS



FACEBOOK

TWITTER

Posts with 40 characters receive 86% more engagement than posts with a higher character count.

S+ POSTS





If your Google+ headline can't be contained in one line, your first sentence must be a gripping teaser to get people to read more.

= PARAGRAPHS

40-55

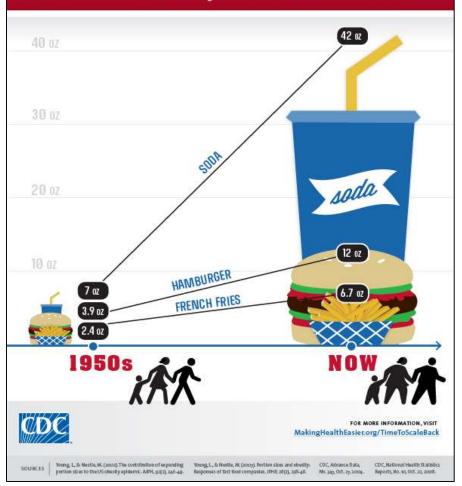


PARAGRAPHS

Opening paragraphs with larger fonts and fewer characters per line make it easier for the reader to focus and jump quickly from one line to the next.

THE NEW (AB)NORMAL

Portion sizes have been growing. So have we. The average restaurant meal today is more than four times larger than in the 1950s. And adults are, on average, 26 pounds heavier. If we want to eat healthy, there are things we can do for ourselves and our community. Order the smaller meals on the menu, split a meal with a friend, or, eat half and take the rest home. We can also ask the managers at our favorite restaurants to offer smaller meals.



Numbers have an **important story** to tell. They rely on you to give them a **clear and convincing voice**.

—Stephen Few

Stories are how numbers talk to people.

-Thomas Davenport

By visualizing information, we turn it into a landscape that you can explore with your eyes, a sort of information map. And when you're lost in information, an information map is kind of useful.

—David McCandless

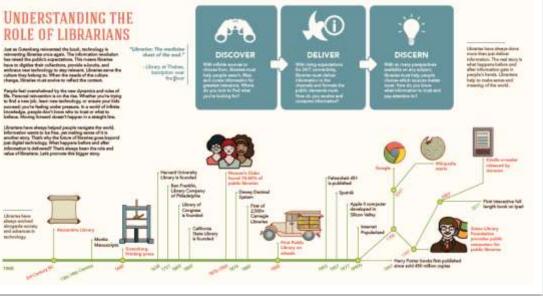
The Data Visualization Continuum



Excel chart/ number art in a report or presentation

Complex infographic that includes a variety of visual elements





INVESTING IN OPPORTUNITIES FOR ADULTS

Strengthening English Skills at the Library

OVER THE PAST YEAR, the Library has tripled the size of its free English for Speakers of Other Languages (ESOL) and Adult Literacy program in order to meet the needs of the city's growing number of immigrants from around the world.

With 38 percent of the city's population now born abroad, the Library aims to become

Amount first-

grader Helen.

Stone raised for NYPL with her Upper West Side

lemonade stand

New Yo of free school The Library's free English classes are particularly important to low-income students who need to improve their English to get work, take classes, help their children in school, or pass their citizenship tests. Nearly two-thirds of the Library's ESOL students have a total family income of less than \$25,000 a year.

The Library now offers spots for more than 6,000 students in classes year-round at 29 libraries throughout the system, up from 17 last year. In the coming years, NYPL aims to expand the program tenfold while broadening it 50 libraries.

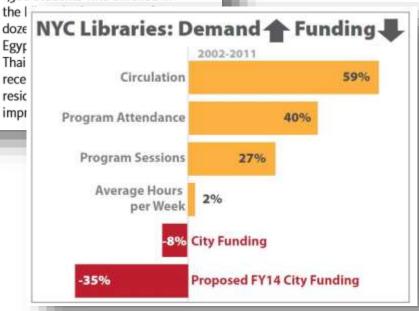
hile adding locations, the

64%

of ESOL students at NYPL have a family income of less than \$25,000

greater variety of times, including evenings and weekends. The Library also now offers an array of classes, from beginner to advanced.

Last summer, the more than 1,500 students who enrolled in



ANNOTATION TOOLS

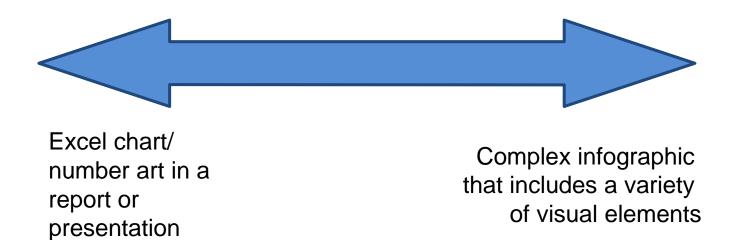
The tool buttons will open in a row on the left side of your screen, once you click on the marker, at the top left corner of the screen.

Check mark

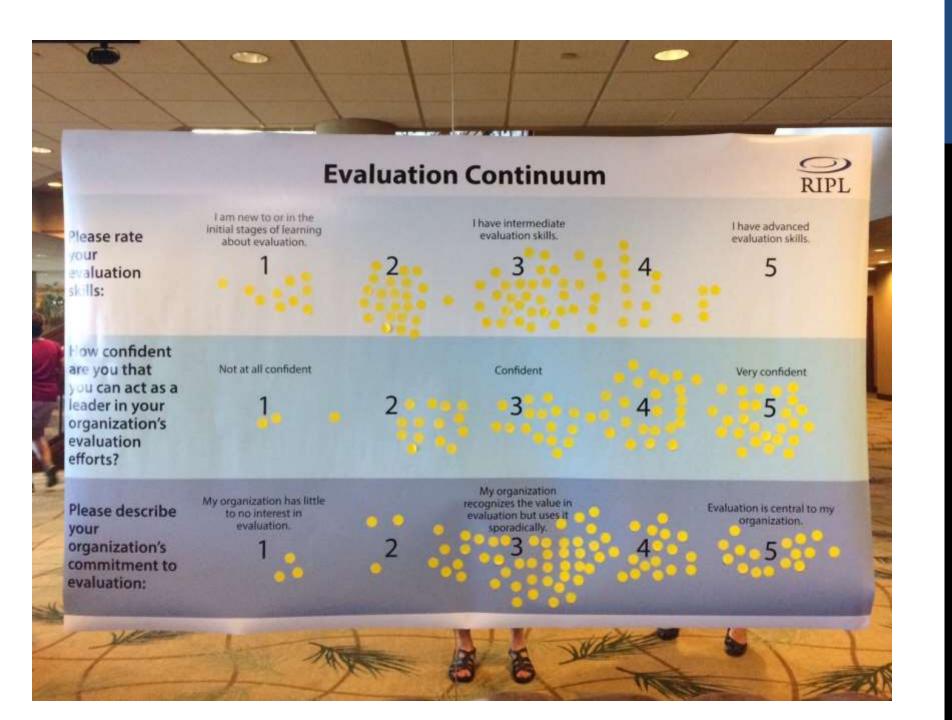
- Click on square, half-way down.
- Use the drop-down menu and choose the check mark.
- Click on slide to indicate choice.



The Data Visualization Continuum



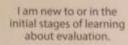
Where are you on the continuum?



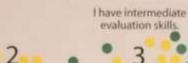
Evaluation Continuum





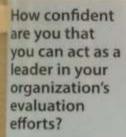


1



I have advanced evaluation skills.

5



Not at all confident

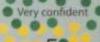
1



Confident



1



Where do you want your organization's commitment to evaluation to be in the next 6

My organization has little to no interest in evaluation.

1



My organization recognizes the value in evaluation but uses it approachically.

oradically.

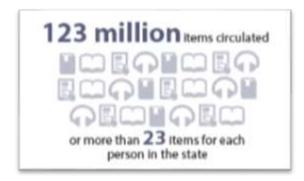


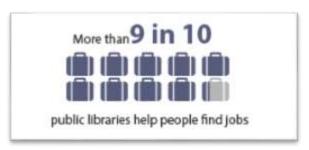
5



4 simple tweaks to make numbers and charts more accessible

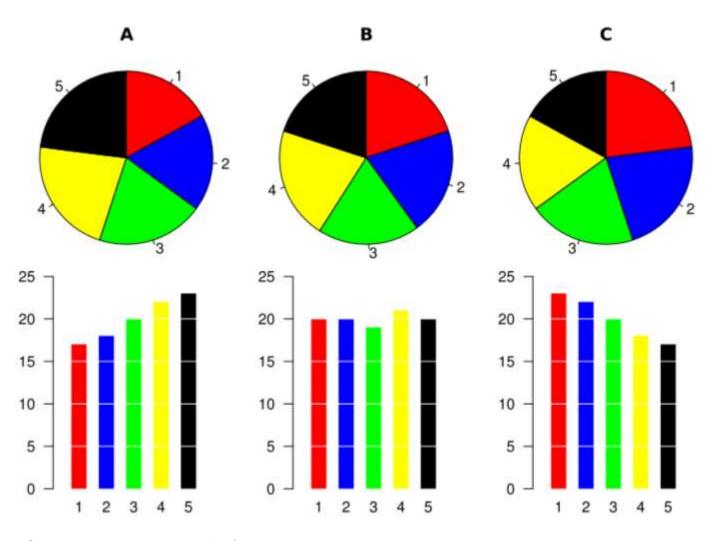
1. PUT NUMBERS IN CONTEXT







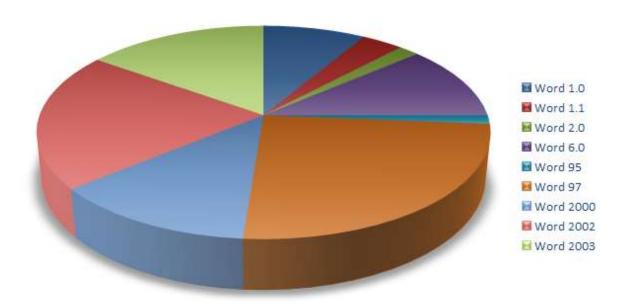
2. CHOOSE THE APPROPRIATE CHART



Source: Data is Beautiful/Reddit

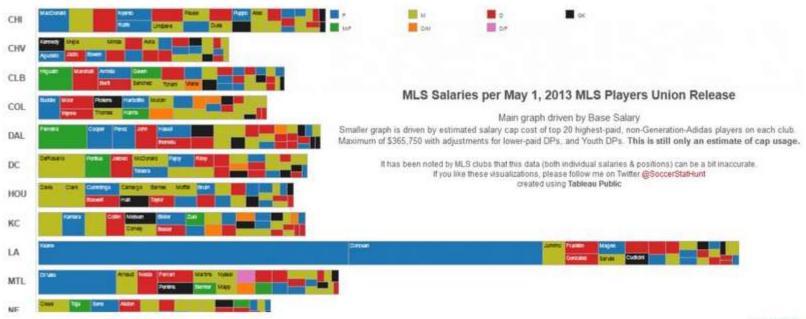
2. CHOOSE THE APPROPRIATE CHART

Microsoft Word Features By Version Added



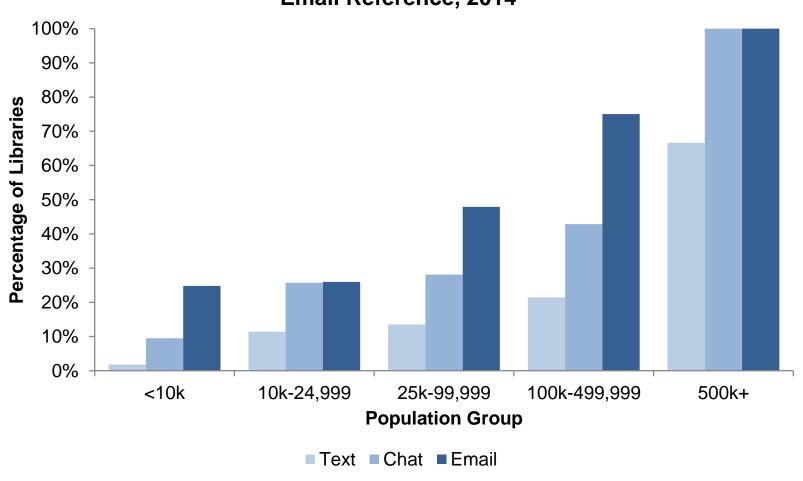
3. SIMPLIFY AND ESTABLISH A FOCAL POINT

I never thought it was possible but I actually understand soccer less after looking at this chart.



4. DON'T MAKE PEOPLE WORK TOO HARD TO FIND INFORMATION

Percentage of U.S. Public Libraries with Text, Chat, and Email Reference, 2014



4. DON'T MAKE PEOPLE WORK TOO HARD TO FIND INFORMATION

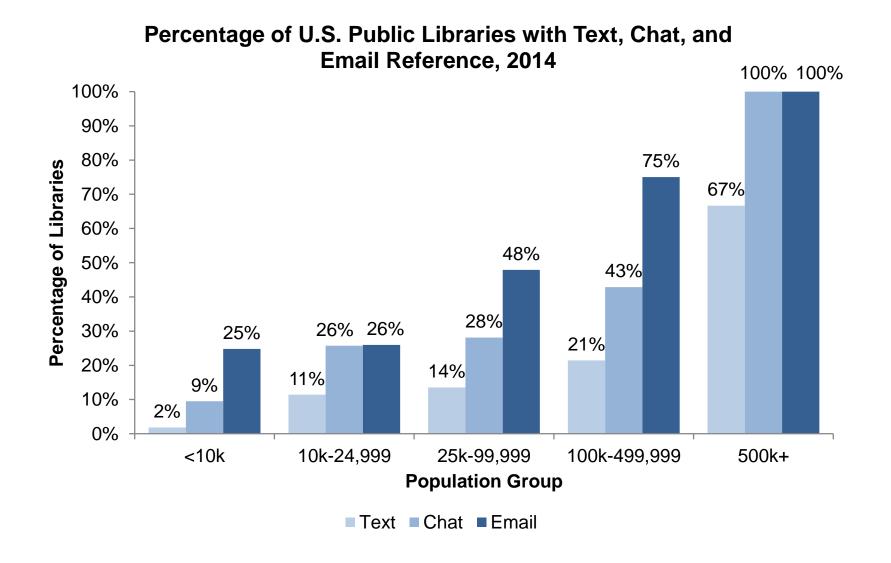


CHART DISSECTION



Chart 3
Percentages of Survey Respondents Indicating Their Child's
Enjoyment of Reading, Reading Skills, and Reading by Choice
Increased after Participating in Summer Reading

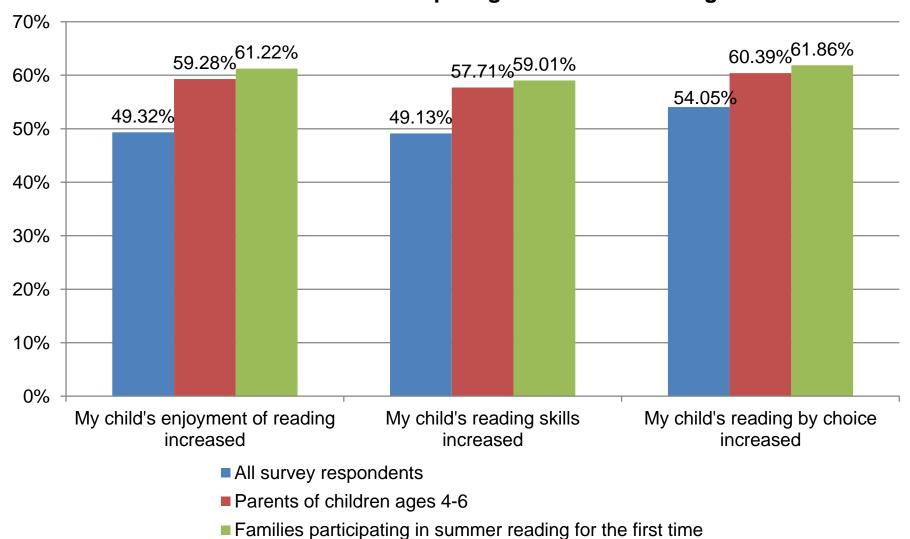


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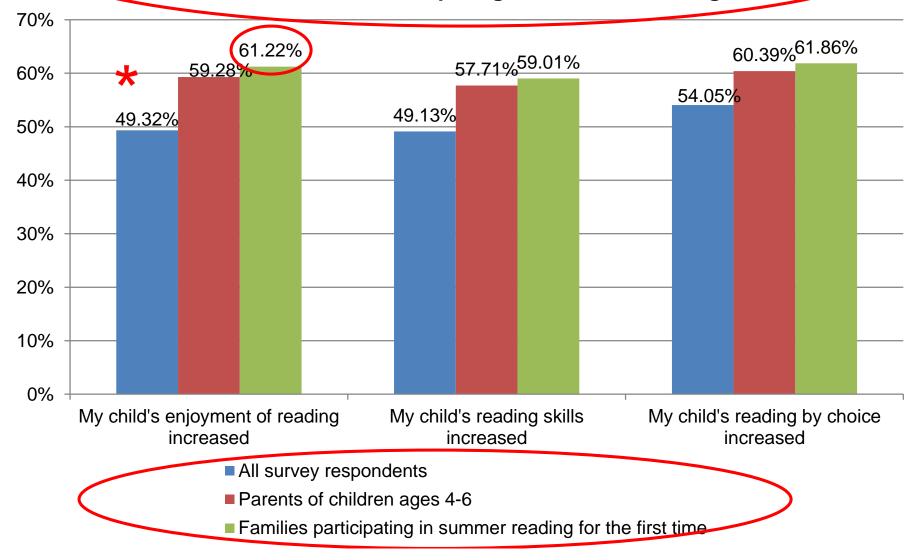
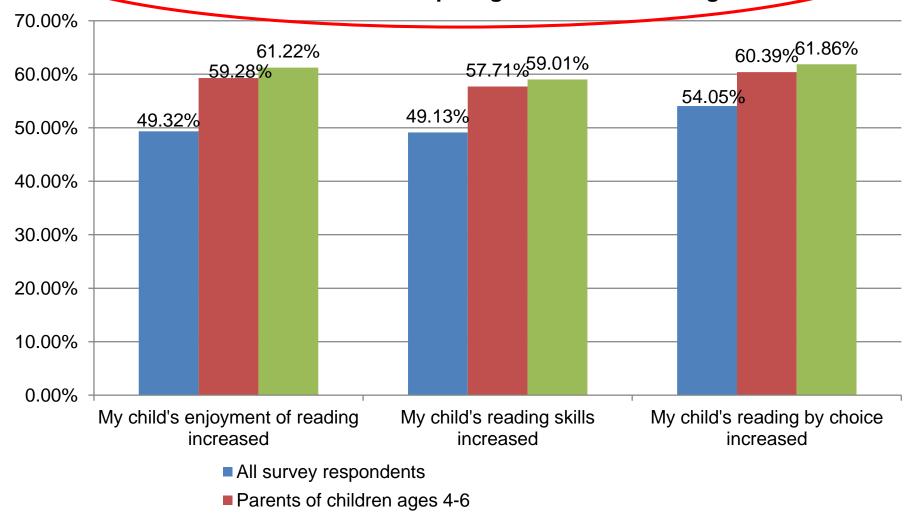


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■ Families participating in summer reading for the first time

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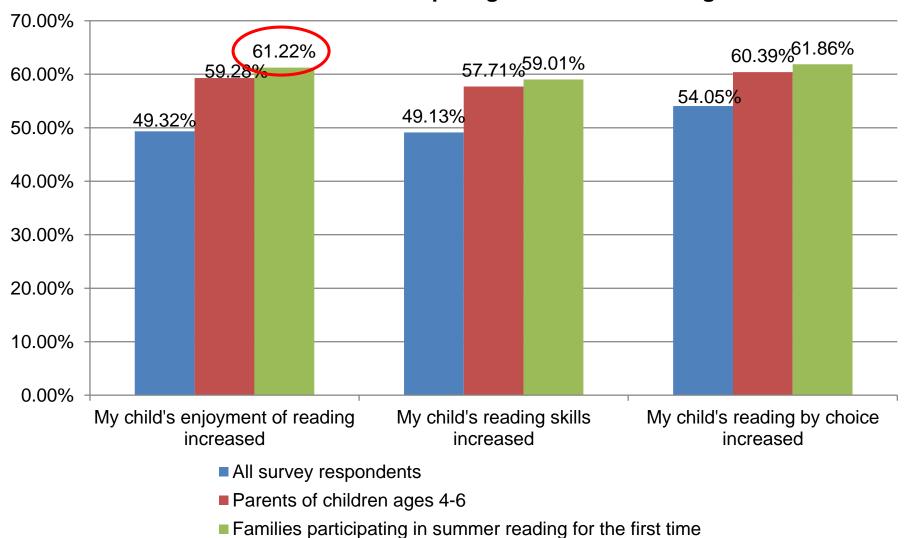


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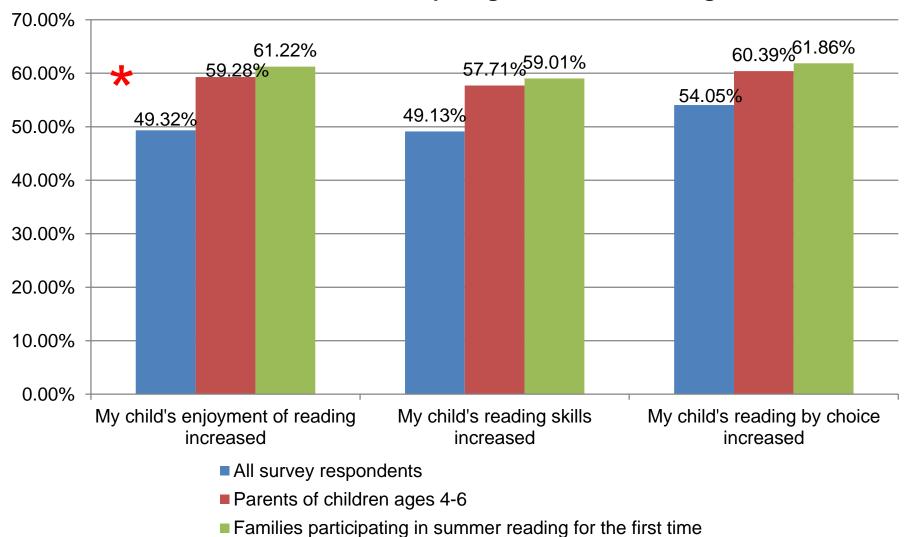
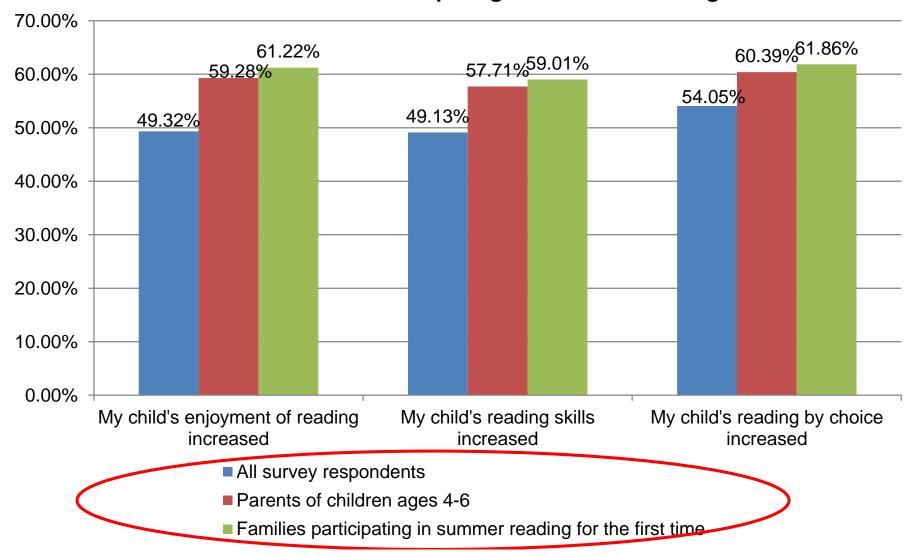
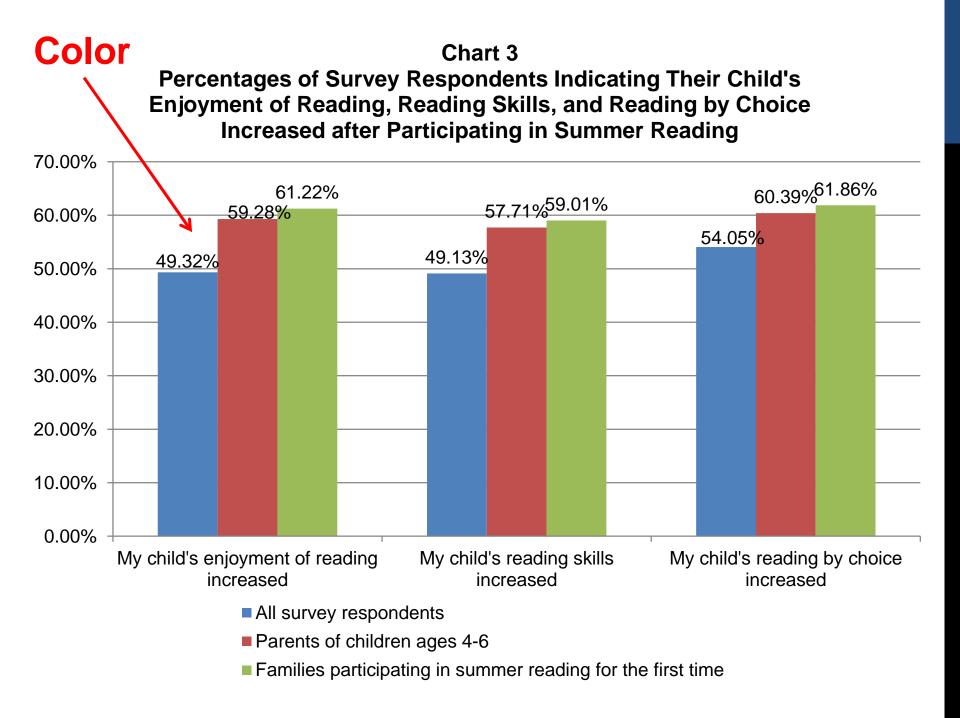


Chart 3
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The impact of summer reading was particularly pronounced for families participating in the program for the first time and children ages 4-6:

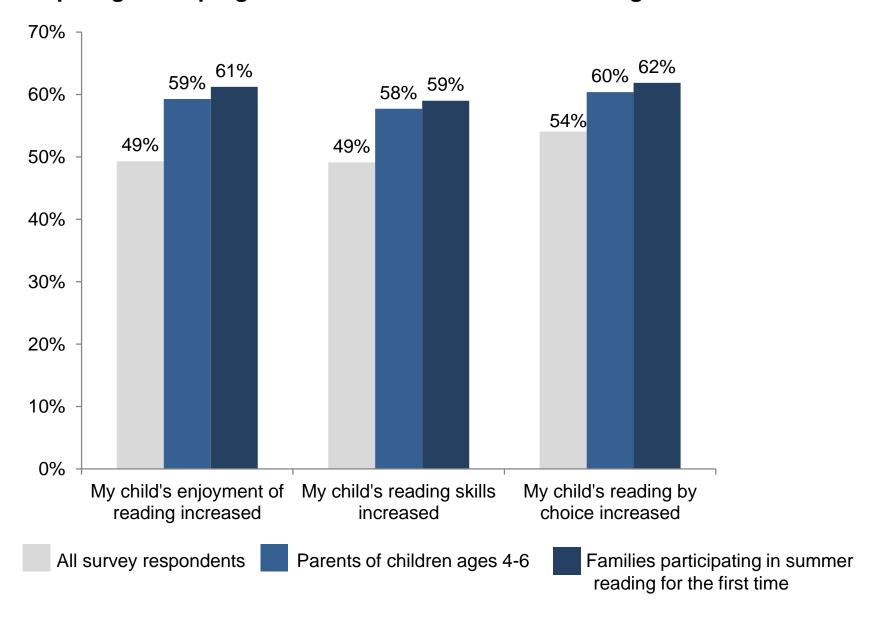
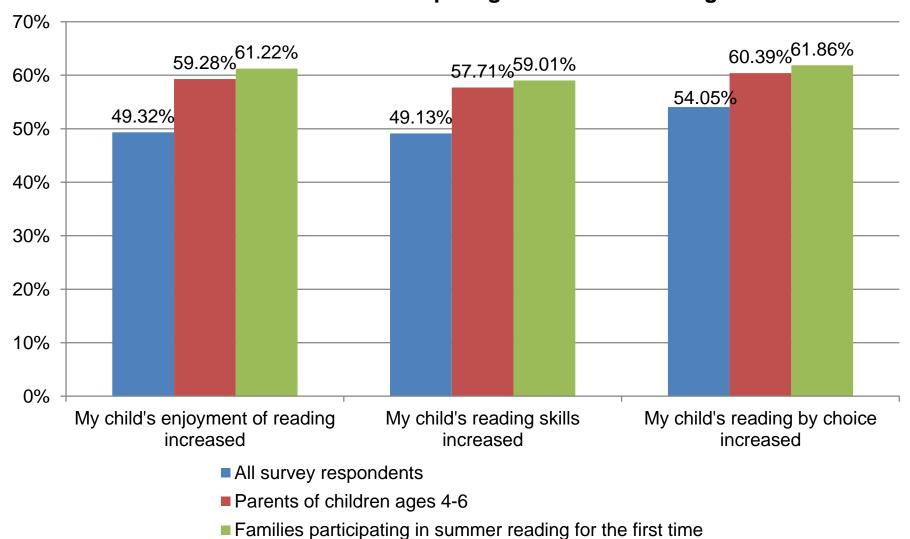
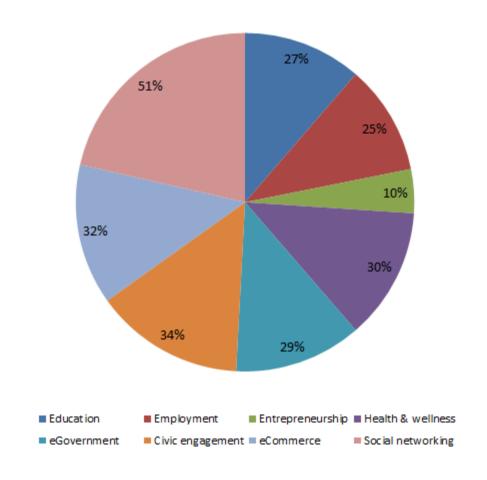


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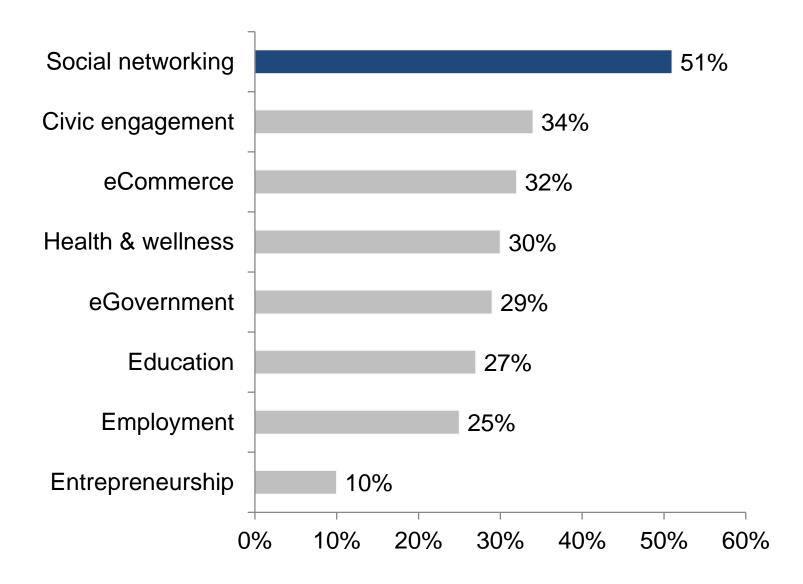


Activity: Chart Dissection

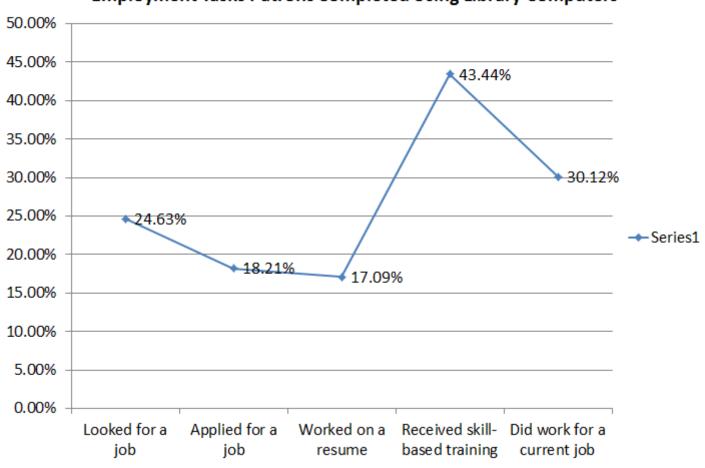
Chart 3.2: Percentage of Rock Creek Public Library patrons who used PACs for the following activities:



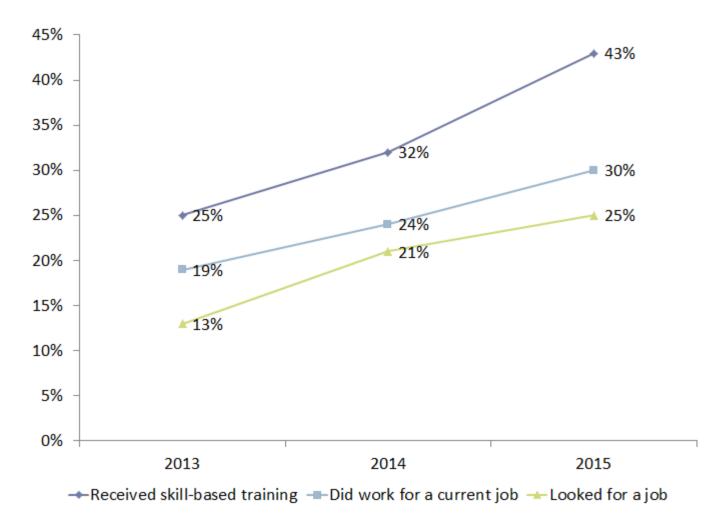
Using technology to stay in touch with family and friends and maintain social networks was the most popular activity on Rock Creek Public Library computers.

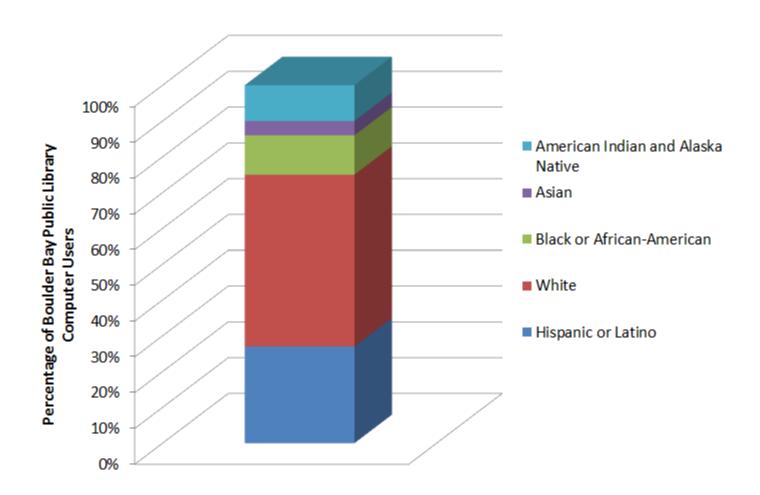


Stony Brook Public Library: Employment Tasks Patrons Completed Using Library Computers

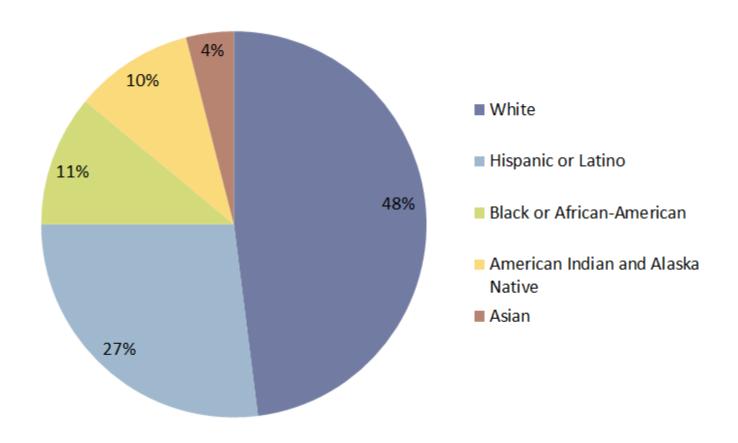


The percentages of Stony Brook Public Library computer users accomplishing work-related tasks have increased steadily since 2013.

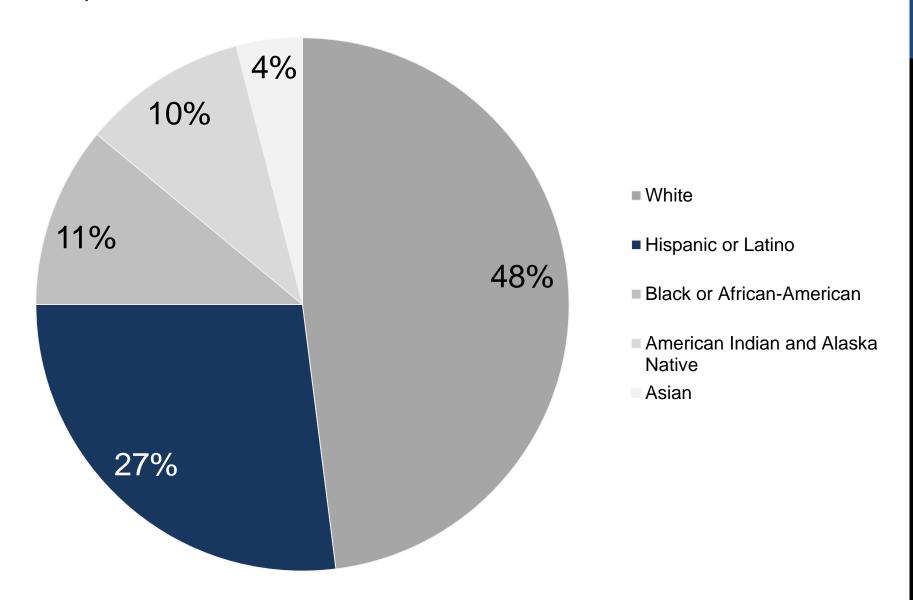




About half of Boulder Bay Public Library computer users are white, and more than 1 in 4 are Hispanic or Latino.

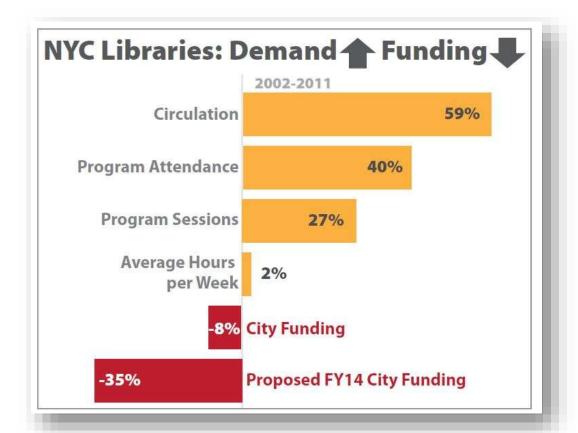


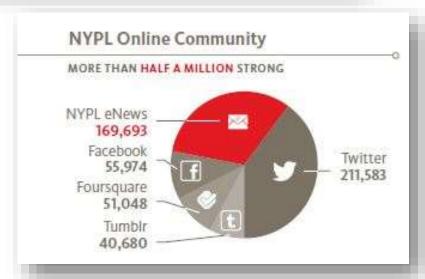
More than 1 in 4 Boulder Bay Public Library computer users are Hispanic or Latino.



3 DESIGN GUIDELINES

- 1. K.I.S.S.
- 2. Show rather than tell
- 3. Colors and fonts



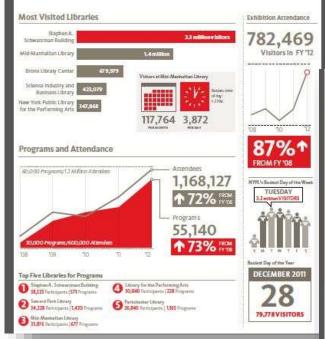


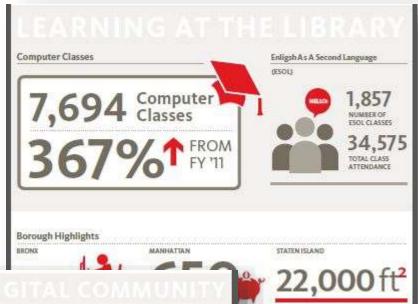


PEOPLE

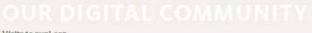
Total Library Visits

18 Million 12%^{*}





Amount of new library space coming to Mariners Harbor Library, and Staplaton Library.



Visits to nypl.org

Tumble

40,680

32 Million 15%[↑]

NYPL Social Networking

NYPL eNews 169,693 Facebook Twitter 55,974 211,583 Foursquare 51,048

MORE THAN HALF A MILLION STRONG

Favorite Tweet NY Public Library @nypl "Google can bring back a 100K answers. A (brarian can bring you back the right one."

- Breakhimself RT If you W Shraries http://ow.ly/6Pt.tE.

GIVING BACK

Number of Library Friends and Schomburg members

We Love our Volunteers









grader Helen Scone rained for WPL with her Upper Wasz Side lemonade stand

2012 to 2014

Fresno County Public Library

BY THE NUMBERS

More people than ever before turned to the public library between 2012 & 2014, seeking everything from books and e-books to computer classes, early learning services, literacy services, job search help, and more.

Total Library Visits

6 Million

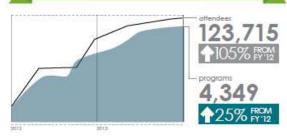




Most Visited Libraries

| Clovis Regional | 1.1 MILLION VISITORS |
|-----------------|----------------------|
| Central Library | 1 MILLION VISITOES |
| Woodward Park | 589,000 VISITORS |

programs and attendance



Summer Reading Program

SRP helps lids & adults improve reading skills and foster a lifelong love of reading.

2012****

2013 *****

our digital community

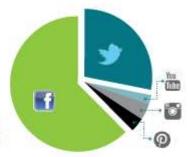
3.8 Million

OUR MOST VISITED

YouTube Video

Chilton
Auto Repair
Manuals
ONLINE ®
THE LIBRARY





Visits to fresnolibrary.org

Public Computer

Internet and information access is important to many Fresno County residents.

uter 691,572





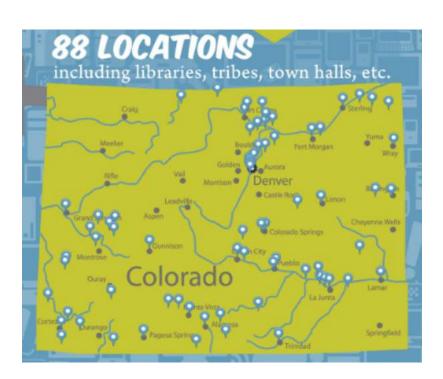
WiFi

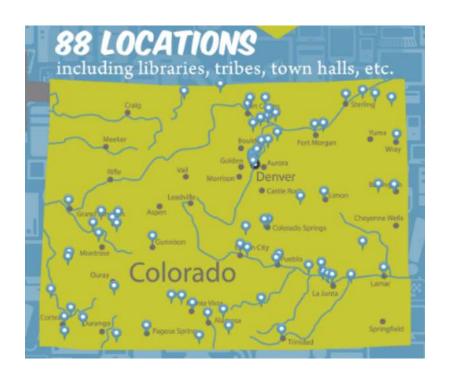
19 branches now have WiFi.

12%

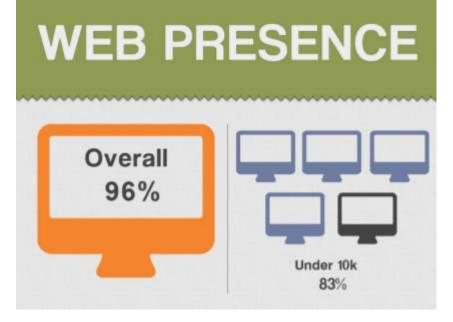
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3 DESIGN GUIDELINES

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Branches of Opportunity

New York City's public libraries are serving more people in more ways than ever before; but they have been undervalued by policymakers and face growing threats in today's digital age

> Funded by the Charles H. Revson Foundation

OUT OF 25 URBAN LIBRARIES NATIONWIDE

In program sessions per 1,000 residents:

Brooklyn ranked 2nd

> NYPL ranked 7th

Queens ranked 5th

In average hours per week:

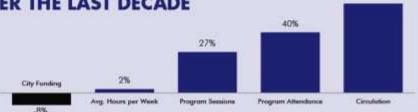
NYPL ranked 12th

Brooklyn ranked 15th

Queens ranked 20th

59%

OVER THE LAST DECADE

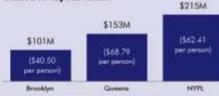


48

different branches citywide have at least doubled annual attendance at programs

different branches citywide have more than doubled their circulation

Raised in capital funds:



Since 2008, the libraries have seen city operating funds reduced by

\$68M

Because of the cuts, full time equivalent employment has dropped

24%

WITH ADDITIONAL **\$50M IN FUNDS**

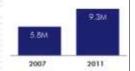
Hours per week would increase from 43 to

would increase by

Program attendance

Circulation would rise by

Computer sessions at public libraries



In 2011, e-book checkouts across all three libraries rose

INFOGRAPHIC CREATION SOFTWARE

PowerPoint

Adobe Illustrator

Piktochart

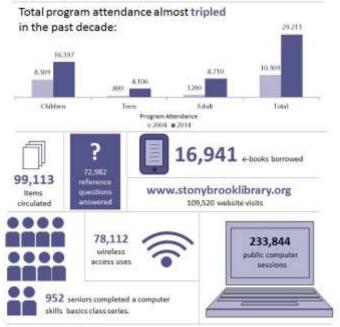
2014 By the Numbers: Stony Brook Public Library

Lorem ipsum dolor sit amet, consectetur adipticing ellit. Nulliam libero enim, vestibulum nec Fermentium a, sagritti sid ligida. Mauris vulputate, nequesit amet venenatis blandit, justo iuma condimentium sapien, quis egestas magne quam ac nulla.

69,000 visits 17%

2 visits per capita





In their own words...

Here's what patrons have to say about Stony Brook Library:

I loved being able to spend time with my child and bond over my love for books.

-Storytime Participant

The access to the internet afforded by the public library is most probably the only reason I'm not absolutely bereft of any and all computer skills. Were it not for the access, as well as the assistance rendered via classes offered, I would most likely be unemployed, if not unemployable.

-Computer Class Participan

Probably the most valuable resource, dollar for dollar, available to the community. I have found jobs, researched, located tax information, and done schoolwork, Thank you!!

-Public Computer User

Summer Reading made a difference. I saw a marked increase in my son's reading ability and appreciation. -Summer Reading Participant

School Libraries & Student Achievement

School Librarians are Linked to Improved Standardized Reading Test Scores

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without endersed librarians.

Librarian

Improved Reading Scores

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Overall Staffing Losses



In a nethous study, even if schools had overall staff declines Inferior 2004 and 2008, students' standardized reading scores were better in schools that insintained or gained a Obrarian sturing this time period.

What other school library characteristics are associated with better test scores? Staffed by Endorsed Librarian

School Librarians Teaching Information Literacy Skills to Students



Extended Library & Staff Hours'



School Librarians Providing In-Service Training to Teachers



Finalble Scheduling





Collaborative Planning

Between School

Larger & Newer Collections 1-4.5



Higher Expenditures 1 6.4



See www.its.org/data-tools/school-disvetes/impact-studies/ for a list of school library impact studies.

CDC I LINE No. of LRS No. COC







2014: A Banner Year for Library Jobline



Library jobs have officially recovered from the Great Recession, according to LRS's popular library job posting website, Library Jobline.org. In 2014, 615 jobs were posted—the most ever since the service's launch in 2007—and more than twice that of 2009's 228 jobs, a site low. We also saw the highest average starting wages for positions preferring the MLIS (\$24.45 per hour) and requiring the MLIS (\$25.31 per hour). Read on to learn more about how the rest of 2014 shaped up.

2014 QUICK STATS: 675 jobs Located in Full-time 429K (40+ hrs per weeks **April & August** busiest months (67 jobs each)

SUBSCRIPTIONS



@libraryjobline



600+ #JobTip: Follow @libraryjobline to get our favorite job hunting advice, #libraryjobs postings, & weekly #HOTJOB

LIBRARY JOBLINE TRENDS

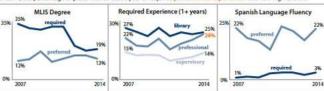




MLIS required | MLIS preferred | MLIS not required

REQUIREMENTS & PREFERENCES

When posting jobs on Library Jobline, employers have the option of specifying whether they prefer or require that applicants meet certain criteria. Here we've outlined the percentages in which employers indicated the criteria below. In 2014, the percentage of posts with at least a year of required professional experience hit a new high of 24%.



1. Among those postings that specified a degree requirement and a starting wegs.
2. Banuss of Labor Statistics, U.S. Reportment of Labor (2014), 73-4021 University. Comparison of Employment and Wayes, May 2013 Relatived from
15. Seedect, 10.013 (2012) ACM-APS-Soft Organization of Comparison of C

Author: Meghan Wanocha, Rosearch Assistant Fast Facts ED3/110.10/No. 331 www.i.RS.org | 6/2015 Library Research Service







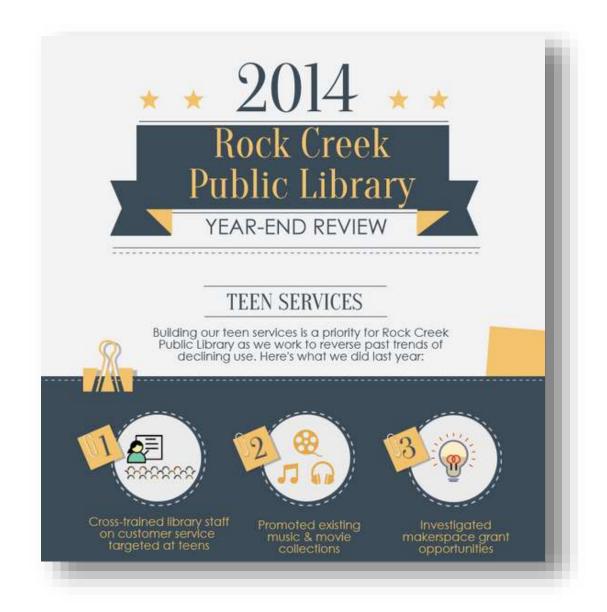


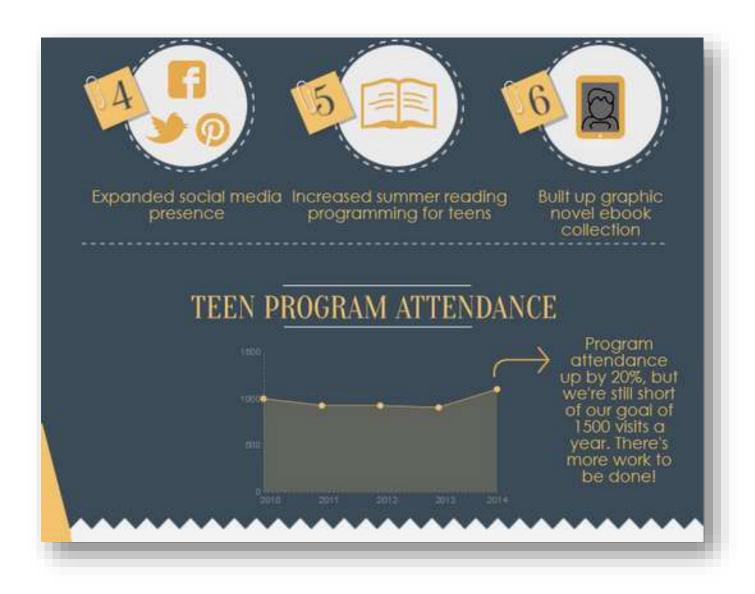
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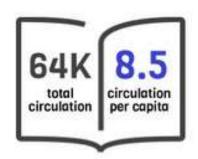






Pebble Pond Public Library by the Numbers

Of survey respondents who received one-on-one tech help from library staff:









Infographic Software:

Selection Guide

Tips and Inspiration:

Librarian Design Share

Stephanie Evergreen

Ann Emery

Flowing Data

Information is Beautiful

Ad/Lib

Storytelling with Data

Software Tutorials:

<u>Lynda</u>

Creative Live

Icon/Image Sources:

IconArchive

openclipart

morgueFile

Pexels

Pixabay

Symbol Font Sources:

Modern Pictograms

StateFace

Cittadino

WebHostingHub Glyphs

The Top 15 Free Symbol Fonts



Fonts:

MyFonts

Adobe Typekit

dafont

Colors/Palettes:

ColourLovers

Adobe Color CC

Color Blindness:

Compliant Color Use

Chart Selection Guide:

Tableau Whitepaper: Which Chart or Graph is Right for You?

QUESTIONS?





RESEARCH INSTITUTE FOR PUBLIC LIBRARIES

September 30-October 3, 2016
Registration opens January 26, 2016
www.ripl.lrs.org

#RIPLeffect



Preconference:

Think, Do, Show: Practical Techniques for Analyzing, Using, and Visualizing Data to Improve Practice and Demonstrate Impact

Tuesday, April 5, 2016, 9:00 AM – 5:00 PM http://bit.ly/RIPL_PLA

THANK YOU!

Linda Hofschire
Hofschire_L@cde.state.co.us
www.lrs.org

@lindahofschire