# FROM NUMBERS TO POLICY: HOW TO USE ALL YOUR DATA

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# WHAT WILL BE COVERED

- What data we collect.
- How we get it.
- What it all means.



### TYPES OF STATISTICS

- System (Voyager) generated
  - Circulation statistics
    - × Renewals
    - × Reserves
    - × By patron type
    - × By item type
  - Courtesy Cards Issued
  - **OPAC** searches
  - Human collected
    - + Gate counts
    - + Floor counts
    - + Desk questions



# WHERE DO WE START?

- Problem/Question?
  - Is our collection actually being used? What is a normal/average level of use?
- Go looking for data.
  - We look at our peers
  - We look for standards
- Define our data and how we collect it.

### **STANDARDS**

- NISO (National Information Standards Organization)
- What is a circulation?
  - "The total annual circulation of all library materials of all types, including renewals. Note: Count all materials in all formats that are charged out for use outside the library. Interlibrary loan transactions included are only items borrowed for users."

ANSI/NISO z39.7-2004: Information Services and Use: Metrics & statistics for libraries and information providers — Data Dictionary. Baltimore: NISO, 2004. <a href="http://www.niso.org/dictionary/toc/appendices/appendixa/">http://www.niso.org/dictionary/toc/appendices/appendixa/</a> (accessed June 4, 2010).

# WHY ARE STANDARDS IMPORTANT

- Comparing Data outside your library/branch
- Directors have annual surveys
  - + ACRL/IPEDs surveys
    - × ACRL http://www.ala.org/ala/mgrps/divs/acrl/publications/trends/index.cfm
    - × IPED <a href="http://nces.ed.gov/surveys/libraries/">http://nces.ed.gov/surveys/libraries/</a>
  - Again what is circulation?
    - + Do you count at...
      - × Check out
      - × Check in



# **VOYAGER CIRCULATION MODEL**

| Transaction Ch | eck-out ( | Check-in  |
|----------------|-----------|-----------|
| 1/////1/       | 4/3/2011  | 4/10/2011 |
| 2              | 4/5/2011  | 5/10/2011 |
| 3              | 5/10/2011 | 6/1/2011  |

Assume you run your stat reports on the first day of the month and limit by check-out date.

|             | Look at Circ_Transacti | /////////////////////////////////////// |
|-------------|------------------------|---|
| Scenario 1  |                        |   |
| April Stats | Trans 2                | 1                                       |
| May Stats   | Trans 3                | 1                                       |
| Total       |                        | 22 out of 3                             |

| Scenario 2  | Look at Circ_Archive_Trans Table |         |  |  |  |  |  |  |
|-------------|----------------------------------|---------|--|--|--|--|--|--|
| April Stats | Trans 1                          | 1       |  |  |  |  |  |  |
| May Stats   | None                             | 0       |  |  |  |  |  |  |
| Total       |                                  | 11 of 3 |  |  |  |  |  |  |

| Scenar | ri        |                     |              |  |  |  |  |  |  |  |
|--------|-----------|---------------------|--------------|--|--|--|--|--|--|--|
| о 3    | Look at b | Look at both tables |              |  |  |  |  |  |  |  |
|        |           |                     |              |  |  |  |  |  |  |  |
| ш      | Circ_Tran | s Circ_Archive_     | $\mathbf{m}$ |  |  |  |  |  |  |  |
|        | actions   | Trans               | 1111111      |  |  |  |  |  |  |  |
| April  |           |                     |              |  |  |  |  |  |  |  |
| Stats  | Trans 2   | Trans 1             | 2            |  |  |  |  |  |  |  |
| May    |           |                     | 111111       |  |  |  |  |  |  |  |
| Stats  | Trans 3   | None                | 1            |  |  |  |  |  |  |  |
| Total  |           |                     | 3 out of 3   |  |  |  |  |  |  |  |

# DATA MANAGER / GATEKEEPER

- Someone who...
  - understands the data and where it comes from
  - controls the data (data integrity)
  - Htracks the changing definitions of the data



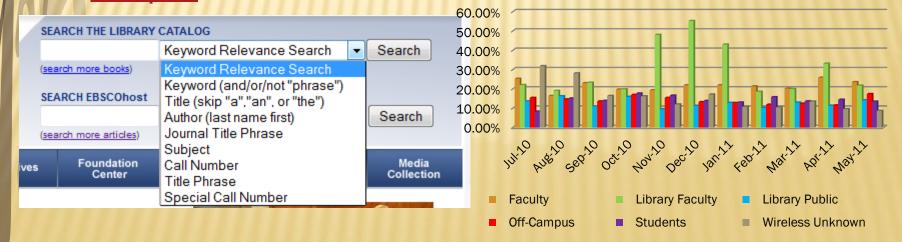
# WHAT DOES THIS ALL MEAN?

- Circulation
  - Any time our overall stats drop we discuss ways to improve circulation in our monthly staff meetings.
  - Set a level at which you should be concerned and ready to take more immediate action (10% drop)
    - × Collect more detailed stats
- Courtesy Cards
  - Increasing service to outside constituents is part of our strategic plan and fits with the University's strategic goals

# WHAT DOES THIS ALL MEAN?

- OPAC Searches
  - Use for decisions regarding the design of your website and OPAC interface
  - Helpful with information literacy research
  - http://documents.el-una.org/459/1/ELUNA2010-

Liu.pdf % Failed Searches



# METHODS OF COLLECTION - HUMANS

### Floor Count

Students (or staff) walk the floors of the library every hour counting the number of people on each floor

### Gate Count

Staff and students collect the numbers off the gate counters 4 times a day

### Desk Questions

+ Staff and students tally the questions they receive at the desk by hour and question type

# HUMAN COLLECTED - FLOOR COUNT

#### Floor Count Statistics

| First Floor | Computer Lab     | 2nd Floor                                | 3rd Floor   | 4th Floor   | 5th Floor  |
|-------------|------------------|--|---|---|--|
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
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|             |                  |  |   |   |  |
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|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
|             |                  |  |   |   |  |
| Flease cou  | nt the number of | people on eac                            | h floor.  |   |  |
|             |                  | r P cae                                  |   |   |  |
| ne Archives |                  | the 2nd Floor                            | Conference R  | loom/Classroo   | m  |
| ic racinves | neading Room, or | inc zna rivor                            | Connectence in  | Classico.   |  |
|             | Flease cou       | Flease count the number of Do not count. | Flease count the number of people on each Do not count: | Flease count the number of people on each floor.  Do not count: | Flease count the number of people on each floor. |

If there is a class going on in a room (Lab or 5th Floor seminar), write "C" and the # of people.

Data Collection
Sheet

<u>Information</u> <u>Collected:</u>

Date

•Hourly counts for each floor plus the computer lab

# HUMAN COLLECTED - GATE COUNT

- Printed Spreadsheet
- Includes numbers for both Gates
- Data recordings at:
  - Opening
  - 1/2 hour after opening
  - + 1 hour before closing
  - + 15 minutes before closing
  - + Closing



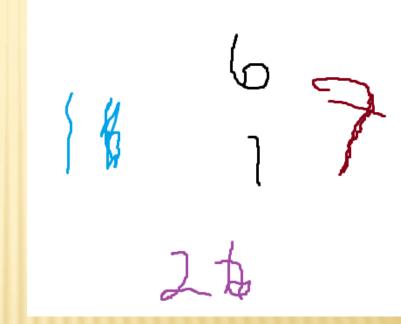
# **HUMAN COLLECTED - DESK QUESTIONS**

#### **Desk Questions**

| Today's Date |           |         |           |       |     |  |   |  |   |          |
|--------------|-----------|---------|-----------|-------|-----|--|---|--|---|----------|
|              | Place one | mark on | this side |       | AND | One mar  | k on this side  |  |   |          |
| Time         | In Person | Roving  | Phone     | Email |     | Basic  | Equipment   | Collection   | Referral  |          |
|              |           |         |           |       |     | directions,<br>ILL pickup,<br>scissors,<br>stapler | copying,<br>printing,<br>scanning,<br>computer use,<br>microform, card<br>center, bill<br>changer | looking for<br>specific items,<br>basic use of<br>catalog or<br>database | needs research<br>help, looking<br>for topical<br>items (non-<br>specific), place<br>ILL, etc.) |          |
| 7:30-9am     |           |         |           |       |     |  |   |  |   |          |
| 9am-10am     |           |         |           |       |     |  |   |  |   |          |
| 10am-11am    |           |         |           |       |     |  |   | \ \ / / lo .   | -+1- D  |          |
| 11am-12pm    |           |         |           |       |     |  |   | _ vvna   | at's R  | ecorded: |
| 12pm-1pm     |           |         |           |       |     |  |   |  |   |          |
| 1pm-2pm      |           |         |           |       |     |  |   |  |   |          |
| 2pm-3pm      |           |         |           |       |     |  |   | ⊥ •Da  | te  |          |
| 3pm-4pm      |           |         |           |       |     |  |   |  |   |          |
| 4pm-5pm      |           |         |           |       |     |  |   | •Tin   | ne of I   | Jav      |
| 5pm-6pm      |           |         |           |       |     |  |   | 1 111  |   | Jay      |
| 6pm-7pm      |           |         |           |       |     |  |   | •Ho  | \^/ it \^/  | as asked |
| 7pm-8pm      |           |         |           |       |     |  |   | 110  | VV IC VV  | as asneu |
| 8pm-9pm      |           |         |           |       |     |  |   | •T\//  | of (  | Jugotion |
| 9pm-10pm     |           |         |           |       |     |  |   | TIYL   | ie oi (   | Question |
| 10pm-11pm    |           |         |           |       |     |  |   |  |   |          |
| 11pm-12am    |           |         |           |       |     |  |   |  |   |          |

# HUMAN COLLECTED - PROBLEMS

- Inconsistent Collection
  - Data doesn't get entered for every collection point
    - × Forget
    - Not enough students/staff at that time
  - Handwriting can be hard to read



# HUMAN COLLECTED - PROBLEMS

Data entry

Every piece of data has to be entered into a spreadsheet by hand



# **HUMAN COLLECTION - SOLUTIONS**

- Inconsistent collection
  - Use estimates and averages
  - Excel's average function does not count null data
    - ×=AVG(cell1, cell2, cell3...)
    - ×Leave cells empty when no data was collected
    - ×Enter a zero when there were no people

# **HUMAN COLLECTION - SOLUTIONS**

- Data entry
  - Set aside time monthly to enter figures
  - Assign a student or staff member to help
  - Do the data manipulation and analysis yourself

# **HUMAN COLLECTED - USES**

- Reducing hours due to staff shortage Jan 2011
  - Looked at October and November data
  - + Floor Count heaviest use dropped by 10pm
  - Desk Questions after 10pm made up less than 4% of daily questions for October as well as November

# FLOOR COUNT TREND - OCTOBER

| October Averages by Day of the Week |        |         |           |          |        |          |        |  |  |  |
|-------------------------------------|--------|---------|-----------|----------|--------|----------|--------|--|--|--|
| Day of the Week                     | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |  |  |  |
| 8:00:00 AM                          | 6      | 3       |           | 5        | 7      |          |        |  |  |  |
| 9:00:00 AM                          | 31     | 26      | 17        | 16       | 16     |          |        |  |  |  |
| 10:00:00 AM                         | 52     | 30      | 43        | 30       | 22.5   |          |        |  |  |  |
| 11:00:00 AM                         | 97     | 46      | 52        | 45.5     | 36.5   | 10.5     |        |  |  |  |
| 12:00:00 PM                         | 70     | 63      | 50        | 40       | 45     | 29       |        |  |  |  |
| 1:00:00 PM                          | 78     | 76      | 61        | 64.5     | 37     | 31       | 34.5   |  |  |  |
| 2:00:00 PM                          | 86     | 80      | 106       | 88       | 31     | 37.5     | 52.5   |  |  |  |
| 3:00:00 PM                          | 71     | 51      | 69        | 76.5     | 33.5   | 34.5     | 56     |  |  |  |
| 4:00:00 PM                          | 44     | 45      | 52        | 49       | 39.5   | 34       | 59.5   |  |  |  |
| 5:00:00 PM                          | 41     | 44      | 49        | 49       | 26     | 27.5     | 64.5   |  |  |  |
| 6:00:00 PM                          | 45     | 50      | 30.5      | 38.5     | 23.5   | 31       | 56     |  |  |  |
| 7:00:00 PM                          | 69     | 47.5    | 49.5      | 29       | 9      | 7        | 47.5   |  |  |  |
| 8:00:00 PM                          | 70     | 59      | 51        | 47       |        |          | 63     |  |  |  |
| 9:00:00 PM                          | 76     | 49.5    | 34        | 40       |        |          | 56     |  |  |  |
| 10:00:00 PM                         | 62     | 50.5    | 38.5      | 43       |        |          | 50     |  |  |  |
| 11:00:00 PM                         | 44     | 35      | 28        | 42       |        |          | 28     |  |  |  |
| Closing walk thi                    | 15     | 10      | 5.5       | 8.5      |        |          | 19     |  |  |  |
|                                     |        |         |           |          |        |          |        |  |  |  |

Floor Count Data

Heaviest usage

Fri-Sat
Ends by 6pm

Sun – Thurs Ends by 10 pm

### FLOOR COUNT TRENDS - NOVEMBER

|                 | November A | verages by Da | y of the Wee | k        |        |          |        |
|-----------------|------------|---------------|--------------|----------|--------|----------|--------|
| Day of the Wee  | Monday     | Tuesday       | Wednesday    | Thursday | Friday | Saturday | Sunday |
| 8:00:00 AM      | 9.5        | 5.2           | 12.0         | 11.3     | 16.7   |          |        |
| 9:00:00 AM      | 31.4       | 23.8          | 42.0         | 15.7     | 22.0   |          |        |
| 10:00:00 AM     | 44.0       | 38.6          | 34.8         | 32.5     | 36.0   |          |        |
| 11:00:00 AM     | 52.8       | 47.0          | 55.8         | 39.3     | 38.0   | 26.3     |        |
| 12:00:00 PM     | 57.0       | 52.8          | 33.7         | 49.7     | 36.5   | 32.3     | 9.0    |
| 1:00:00 PM      | 62.5       | 63.4          | 59.5         | 61.0     | 31.0   | 39.3     | 25.0   |
| 2:00:00 PM      | 93.2       | 90.0          | 75.0         | 85.7     | 38.0   | 42.0     | 38.3   |
| 3:00:00 PM      | 83.8       | 72.2          | 46.7         | 53.5     | 39.0   | 42.7     | 60.0   |
| 4:00:00 PM      | 73.8       | 68.6          | 61.0         | 63.5     | 40.7   | 52.3     | 73.3   |
| 5:00:00 PM      | 64.6       | 62.8          | 49.3         | 57.0     | 35.3   | 39.3     | 74.3   |
| 6:00:00 PM      | 60.4       | 41.8          | 43.5         | 49.7     | 16.5   | 31.0     | 59.0   |
| 7:00:00 PM      | 72.3       | 43.5          | 42.5         | 52.3     | 2.0    | 10.3     | 55.8   |
| 8:00:00 PM      | 82.6       | 75.2          | 56.0         | 56.7     |        |          | 65.7   |
| 9:00:00 PM      | 66.4       | 75.6          | 63.7         | 50.3     |        |          | 61.5   |
| 10:00:00 PM     | 52.8       | 67.5          | 49.7         | 44.3     |        |          | 50.5   |
| 11:00:00 PM     | 35.2       | 38.3          | 43.0         | 32.0     |        |          | 39.3   |
| Closing walk th | 11.8       | 12.0          | 10.0         | 7.3      |        |          | 4.0    |

Floor Count Data

Heaviest usage

Fri-Sat
Ends by 6pm

Sun – Thurs Ends by 10 pm

# DESK QUESTION TRENDS - FALL 2010

| Averages by Day of the Week | Sundays | Mondays | Tuesdays | Wed | Thurs | Friday | Saturday |
|-----------------------------|---------|---------|----------|-----|-------|--------|----------|
| Fall 2010                   |         |         |          |     |       |        |          |
| 7:30AM-9AM                  |         | 4.1     | 2.8      | 3.2 | 2.4   | 2.6    |          |
| 9AM-10AM                    |         | 4.0     | 2.6      | 3.5 | 2.9   | 2.1    |          |
| 10AM-11AM                   |         | 3.1     | 2.6      | 3.7 | 3.4   | 3.1    | 4.6      |
| 11AM-12PM                   |         | 2.8     | 3.3      | 2.6 | 4.2   | 3.2    | 2.2      |
| 12PM-1PM                    | 2.8     | 3.9     | 3.9      | 2.9 | 4.0   | 1.9    | 2.7      |
| 1PM-2PM                     | 1.8     | 3.0     | 4.2      | 2.9 | 3.5   | 2.7    | 3.2      |
| 2PM-3PM                     | 2.0     | 3.0     | 3.3      | 3.3 | 4.5   | 2.6    | 2.3      |
| 3PM-4PM                     | 2.7     | 2.4     | 4.2      | 3.0 | 4.7   | 3.4    | 3.2      |
| 4PM-5PM                     | 2.0     | 3.1     | 4.3      | 4.2 | 3.0   | 2.6    | 3.0      |
| 5PM-6PM                     | 3.4     | 2.6     | 3.5      | 2.4 | 2.8   | 2.5    | 2.7      |
| 6PM-7PM                     | 2.3     | 3.4     | 3.2      | 1.7 | 2.3   | 2.9    | 2.0      |
| 7PM-8PM                     | 2.7     | 2.5     | 2.3      | 3.7 | 2.4   | 3.5    | 2.0      |
| 8PM-9PM                     | 2.7     | 2.3     | 3.1      | 3.0 | 3.2   | 5.0    | 2.0      |
| 9PM-10PM                    | 2.4     | 1.8     | 2.3      | 1.5 | 2.8   |        |          |
| 10PM-11PM                   | 2.2     | 2.6     | 2.5      | 1.5 | 1.7   |        |          |
| 11PM-12AM                   | 2.7     | 1.6     | 1.6      | 1.0 | 1.0   |        |          |
|                             |         |         |          |     |       |        |          |

**Desk Question Data** 

Heaviest usage Mon-Thurs Ends by 10 pm

Some additional usage 10-11pm
Mon and Tues

# STAFF SHORTAGE HOURS

- Regular Hours Total 134.5 hrs
- Sunday
  - + Noon to midnight (12 hours)
- Monday Thursday
  - + 7:30 am midnight (16.5 hours)
- Friday
  - + 7:30 am 7 pm (11.5 hours)
- Saturday
  - + 10 am 7 pm (9 hours)

- January Hours Total 108.5 hrs
- × Sunday
  - + 2pm **10pm** (8 hours single staff member with paid lunch)
- Monday Thursday
  - + 7:30 am **10 pm** (14.5 hours)
- Friday
  - + 7:30 am 6 pm (10.5 hours)
- Saturday
  - + 10 am 6 pm (8 hours single staff member with paid lunch)

### **HUMAN COLLECTED - USES**

- Constant requests for 2am daily closing time
  - Floor Count data will give us a better picture of whether it will be sufficiently used
  - Currently only opening until 2am during finals
  - Still have to deal with the challenge of staffing that time period



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