Impact/outcome research in libraries

Roswitha Poll
Münster
The importance of libraries

What libraries ensure (IFLA)

- Democratic values
- Economic progress
- Cultural diversity
- The open information society
- Information equality
- Information literacy
- Reduction of poverty

Libraries make a difference
But who will believe it?

Düsseldorf 2006
Input – Processes – Output – Impact/Outcome

Input
- funding
- staff
- collections
- space
- equipment

Processes
- Preparing products and services

Output
- loans
- visits
- downloads
- reference transactions

Impact/Outcome

Düsseldorf 2006
“Outcomes are the results of library use as affecting the individual user.”

Don Revill

“Outcomes are the ways in which library users are changed as a result of their contact with the library’s resources and programs.”

ACRL
<table>
<thead>
<tr>
<th>Different outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>positive</td>
</tr>
<tr>
<td>negative</td>
</tr>
<tr>
<td>direct/immediate</td>
</tr>
<tr>
<td>long-term</td>
</tr>
<tr>
<td>actual</td>
</tr>
<tr>
<td>potential</td>
</tr>
<tr>
<td>intended</td>
</tr>
<tr>
<td>unexpected</td>
</tr>
</tbody>
</table>
Impact/outcome of libraries

- knowledge
- information literacy
- academic or professional success
- social inclusion
- life-long learning
- individual well-being

changes in skills, competences, attitudes, behaviour

Düsseldorf 2006
The pyramid of outcomes

Short-term effects
- problems solved
- information gained
- time saved

Long-term effects
- improved information literacy
- better academic / professional success
Problems of assessing outcome

- Value and outcome of a service can differ between user groups
- Data may not be available because of data protection rules
- Results of projects are often not comparable because of different data collection methods
- Long-term effects cannot be assessed as persons are no more available
- All tested methods are time-consuming

Influences on individuals are manifold
Methods of assessing impact

Usage statistics

- Use of electronic media
  - location and frequency of use
  - forms of use (sessions, downloads, queries)
  - what resources are used
- Use of electronic services (e.g. online reference)
- Changes in the use of traditional services
- Higher remote use
- Percentage of the population using e-services and media shows that users are gaining confidence in using electronic media and services.
Methods of assessing impact

2 Qualitative measures

- **Surveys** (print, telephone, online)

  *The "anecdotal evidence" supports data*

  Facts and stories must be organized to show patterns
Methods of assessing impact

Quantitative methods

- tests assessing user skills before and after training
- observation (unobtrusive)
- data mining - analysis of bibliographies in user publications
- correlation between library use and success

Problem: Library influences difficult to distinguish from others
User satisfaction as outcome measure?

"Satisfaction on the part of a user is an outcome. So is dissatisfaction"

A change of behaviour?
Rather a basis for such change
Assessing impact

Correlation of library use and academic success

**Library use, expressed by**
- Frequency (loans, visits)
- Range of services used (reference service, user training, ILL)
- Range of collections used (undergraduate collection, E-journals, special material)
- Attendance at training sessions

**Success, expressed by**
- Duration of studies
- Grades in exams
- Student retention
- Employment rate after exam
- Quality of publications (impact factor, peer-review journals)
When comparing groups (e.g. with grade 1 in the final examination) there seems to be a correlation between the success and the use of more specialized literature.

Example

Capetown University

- Loans out of “short-loan material”
- Loans out of the general collection
- Compared with students’ success (grade in exam)

Result:

When comparing groups (e.g. with grade 1 in the final examination) there seems to be a correlation between the success and the use of more specialized literature.
The library's impact on information literacy

Outcome of a specific training or series of trainings

- surveys after instruction
- pretest / posttest
- self-assessment of users
- behavioural observation
- transaction logs
- longitudinal studies
- assessing changes in students’ bibliographies
Example of "mini-quiz"

Students …

- are aware of options to get material not available locally

- can recognise a Web address, a book citation, a serial citation, and a call number

- know how to use the operators AND and OR

- know the difference between primary and secondary sources

- know the difference between popular and scholarly journals

- think library skills will be useful in their chosen profession

Results

- 90 %
- 90 %
- 50 %
- 57 – 90 %
- 90 %
- 77 %
Using *scenario-based questions*: Driving accidents by alcohol

<table>
<thead>
<tr>
<th>Task</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locate an online copy of a certain article</td>
<td>92.8%</td>
</tr>
<tr>
<td>Identify the government agency who authored a study on the topic</td>
<td>98.2%</td>
</tr>
<tr>
<td>Locate the government study</td>
<td>12.7%</td>
</tr>
<tr>
<td>Extract the definition of &quot;hard core drinking driving&quot; of the material</td>
<td>27.3%</td>
</tr>
<tr>
<td>Identify the percentage of fatal crashes caused by hard drinking</td>
<td>80.0%</td>
</tr>
</tbody>
</table>
Comparing face-to-face instruction with an online tutorial

Group 1: Tutorial (no assistance of librarians)
Group 2: Mediated (tutorial with assistance of a librarian)
Group 3: Class with face-to-face instruction
Comparing face-to-face instruction with an online tutorial

Pre-test and post-test results by method of instruction
Self-Assessment

Examples of questions

Please rate your self-confidence as follows (1=very confident, 5=not confident):

- Using an online catalogue to look up books
  
- Finding books on the shelf using call numbers
  
- Using a database to find periodical articles
  
- Writing a correct citation in a bibliography
  
- Finding sources on a specific topic on the Internet
  
- Evaluating an Internet source (authority, bias)

Problem:
Self-assessment may be too optimistic
Citation Analysis

Citations in students' papers or dissertations are analyzed as to

- accuracy of citation
- scholarly resources (e.g. citations out of peer-review journals)
- currency of sources
- percentage of electronic sources
- relevance of the sources for the publication (together with faculty)

Citations can be analyzed before and after specified activities of the library.
Example: Implementation of an enquiry-based instruction program

Citation Analysis

Results of the analysis:

- increase in citations to scholarly journals
- no significant difference in other topics
  - accuracy of citation
  - currency of resources
  - competence of judging
- higher awareness of scholarly journals
Assessing impact

Importance of the local library for research

- **Percentage of material cited** in academic publications that was (could have been) retrieved via the local library.
  
  Citations in
  - dissertations
  - student papers
  - publications of a faculty

2 **Estimated percentage of the information needed** for a publication / paper / report found via the local library

- questionnaire/interview after publication
Citations in 20 dissertations are analyzed as to availability in the local library.

<table>
<thead>
<tr>
<th>Citations</th>
<th>number</th>
<th>% available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monographs</td>
<td>3111</td>
<td>73.5%</td>
</tr>
<tr>
<td>Journal articles</td>
<td>1760</td>
<td>67.7%</td>
</tr>
<tr>
<td>Other</td>
<td>40</td>
<td>50.6%</td>
</tr>
</tbody>
</table>

Where did you get the literature?

<table>
<thead>
<tr>
<th>Where did you get the literature?</th>
<th>never</th>
<th>sometimes</th>
<th>frequently</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central library</td>
<td>0</td>
<td>7</td>
<td>13</td>
</tr>
<tr>
<td>Branch libraries</td>
<td>0</td>
<td>5</td>
<td>15</td>
</tr>
</tbody>
</table>
Assessing impact

Impact on social inclusion and community life

Does the existence of a specific library / of libraries further
• individual well-being
• the quality of life in a society
  - democracy
  - social inclusion
  - cultural life
  - local identity
  - life-long learning

Method: Assessing public opinion (users and / or non-users) as to the benefits of libraries and special library services

• to the population (indirect benefit)
• to the individual user (direct benefit)
Assessing the financial impact of libraries

Assessing time costs (replacement value of a client's time)

Users invest time and effort in order to use library services. The value that they - or their institution - place on that use must be at least as high as their "sacrifice" of time. Costs are calculated by time and average salary.

Using the contingent valuation method

Willingness-to-pay

What would users pay for the maintenance of a service?

Willingness-to-accept

Which sum would users accept as equivalent for the deletion of a service?

For every £1 of public funding the British Library receives each year, £4.4 is generated for the economy.
## Possible indicators for impact

### Information literacy
- Higher skills/competences after training
  - Surveys
  - Tests

### Importance of the local library for research
- Estimation of the importance
  - Survey
- Percentage of citations in publications in the local library collection
  - Manual counts
  - Survey

### Academic or professional success
- Correlation of library services use to success
  - Use data / success data
- Correlation of library services use to number/citation of publications
  - Use data / Citation index
Possible indicators for impact

Social inclusion

- Estimation of the social importance of libraries
- Percentage of potential users in a group using the library after certain promotion activities (Groups e.g. defined by age, gender, ethnic origin, education)

Financial value of library services

- Estimation of time saved
- Willingness-to-pay
Using the results

- accountability
- decision making
- resource management
- improvement of services
- promotion of the library's role

Libraries on the agenda

(Claudia Lux)
Impact/outcome projects

eVALUEd: in "evidence base", University of Central England: Toolkit for evaluating electronic information services
http://www.evalued.uce.uk/index.htm

IMLS (Institute of Museum and Library Services): outcome-based evaluation of projects
http://www.imls.gov/index.htm

ARL New Measures Initiative: several projects
- Learning outcomes
- Higher education outcomes research review
- MINES (Measuring the impact of networked electronic services)
http://www.arl.org/stats/newmeas/index.html

SCONUL and LIRG (Library and Information Research Group): impact initiative and mailing list
http://www.sconul.ac.uk/activities/performance/impact.html
Standards for impact indicators?

- Projects going on worldwide
- Bibliography of projects and publications:

http://www.ulb.uni-muenster.de/outcome
It is a capital mistake to theorize before you have all the evidence. It biasses the judgement.

Sir Arthur Conan Doyle