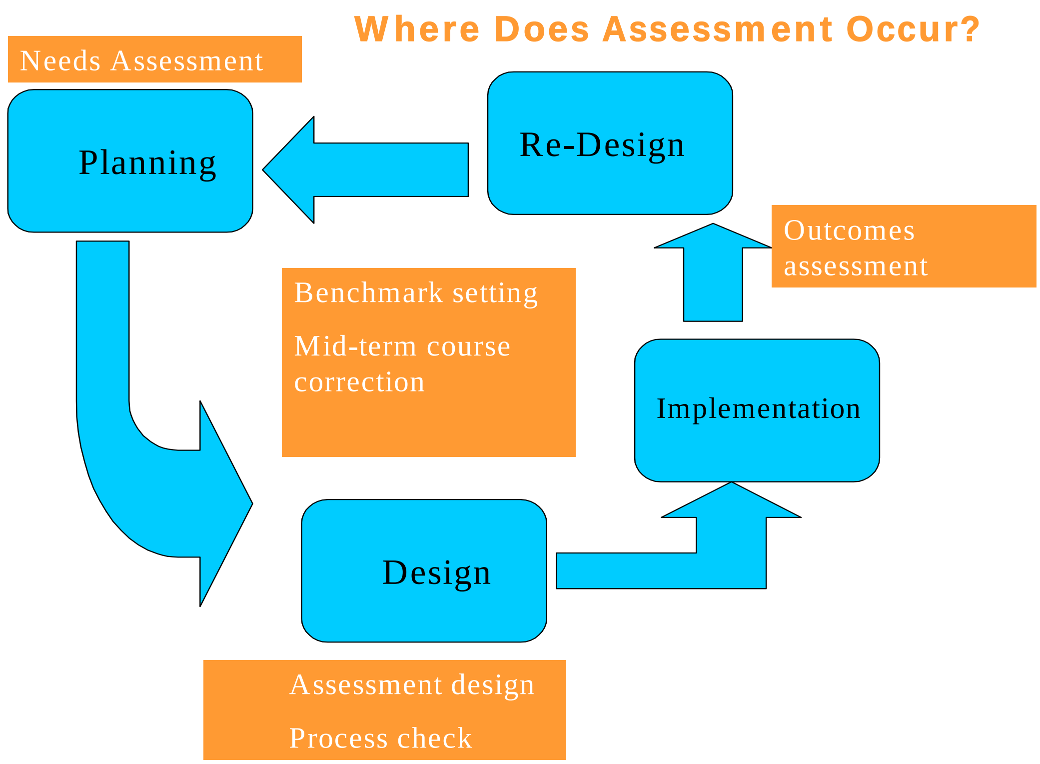

Evaluation for Digital Library Projects

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At what point in the digital library project should evaluation occur? As the diagram above indicates, evaluation occurs at every stage of the digital library project. Is it really so critical that we assess every step of the way? Isn't there the danger that we'll spend more time evaluating than doing?

These are legitimate questions and concerns. Most digital projects are understaffed, and the time spent assessing the project can literally be time not spent **doing** the project.

There are very good reasons for developing an assessment-based digital library initiative, however.

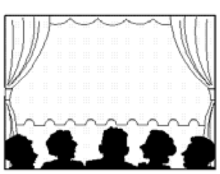
To begin with, digital collection building often starts as a discrete project—"wouldn't it be great if we put these charming historical postcards of our town on the web?" However, web-based information is often a compelling delivery format for users. They want and expect to find most of the information they need—for their personal research, their entertainment and their lives—on the web. Once you have demonstrated the ability to digitize collections, they won't see any reason why more and more of your collections aren't digitized and placed on the web.

Digital collection building can quickly become an important and expected ongoing library service. Careful assessment can help you integrate this new activity into your service repertoire, which is probably already stretched too thin in terms of staff and dollars to accommodate a new service without careful planning.

Digital collection building can provide significant rewards to an organization in terms of visibility and community approval, but it is expensive and time-consuming. You need to first insure that the digital collection or project will have a genuine impact on your audience or community. You should undertake a digital collection building-project to meet an existing community desire or need, rather than to build a need or desire that doesn't exist.

Digital collection building remains an emerging service that needs to establish its role in the range of current and emerging services that an organization provides. As an organization, you want to assess the value of the collection and project in terms of its usefulness and impact on your user community but also its role and importance in relation to the other services that the organization provides.

Evaluation strategies and methods for each stage of the digital project are discussed below.



Stage One: Needs Assessment

Does the audience or community you serve **need** this collection? Will it fill, or help to fill, an important gap in information service to users? Some collections can have a dramatic impact on the community they serve. Meeting a compelling audience need is not the only justification for a digital collection, but it can escalate the collection building in importance for your organization and make funding the collection appealing to a broader range of granting agencies.

How can you identify community need for a digital collection or project? Your first step is an extensive **literature search**, to look for community needs assessment that other organizations and agencies in your community or target user area have undertaken, both at the local city, county and state level. For example, a study on the state of education in your state or community, or the results of statewide testing, might indicate that a large percentage of high school students know almost nothing about their state. This can have an impact on being an educated citizen with a voice in the ongoing development of the state and provide a compelling reason to document the state's history, development and culture as well as a rationale for marketing the collection through outreach and activities to high school educators and students.

Organizations like the Eagleton Center for Public Interest Polling conduct public opinion polls on a variety of topics, including ethnicity and multicultural diversity, such as samplings of opinion on the respondents' attitudes towards the ethnic diversity of their community. These polls, stratified by geographic area within New Jersey, can provide compelling support for a collection on the diverse ethnic communities within your community, with a focus on increasing appreciation for community diversity. The archived Eagleton polls are available at the following link: http://www.scc.rutgers.edu/eagleton/

Census data and follow-up data collected at the state or local level can be used to demonstrate the changing composition of your audience community, to justify developing collections and digital services to reflect your changing demographic. This changing demographic could reflect changes in ethnic composition but also age changes—perhaps your community is growing significantly older, or perhaps your community is proving to be a magnet for families with young children.

A thorough grounding in the statistical composition of your community, together with its changing physical infrastructure, industry, etc. is a critical first step. There may even be changes that surprise you and lead you to change the nature or focus of the collection you intended to build!

A **needs assessment survey** with your target audience can also be conducted. Most cultural heritage organizations are visitor-intensive environments, so a short assessment survey that can be easily administered to busy users is very helpful in justifying and focusing your project. A needs assessment survey can be administered in a variety of ways—from paper forms completed by walk-in visitors to a web survey or even a mailed survey, although this can be expensive, since you must provide a stamped self-addressed envelope for the return. A postcard-sized survey that users can complete at the organization or take with them (with the stamp affixed) to complete later, can be an effective strategy.

Survey design appears to be a fairly simple task. You want to know factual information or opinions on a topic, so you ask a few questions, obtain the answers, and try to determine what the majority of respondents want.

In fact, a good survey is a fairly complex undertaking. Major issues with a survey are:

- Obtaining a good sampling—a cross-section of your community of users of a sufficient size to provide meaningful results.

- Designing the questions to be clear and straightforward, so that every question can be interpreted and answered in a consistently valid manner by every respondent. This is not as easy as it sounds. We have all completed surveys where we have been required to select an answer, when for your circumstances; the answer isn't provided or is "none of the above."

- Designing the appropriate mix of multiple choice vs. short answer or free-text essay response so that users can move swiftly and easily through the survey. Open ended questions can elicit nuances that the "yes or no" of a multiple choice or true/false cannot, but if a survey is too long, the natural tendency of the respondent is to skip over the open ended questions requiring a response or even to opt out of the survey altogether.

- Designing questions so that you don't tip them off to the expected answer or otherwise bias their response (example: "Museum X is the only museum in the state without a website. How important do you fee it is for Museum X to develop a website?")

Do your homework on effective survey design before you create the survey. You won't have many chances to solicit the opinions of your customer base, so don't squander this opportunity with a poorly designed survey. Here are some helpful websites on survey design to get you started:

Laboratory for Automation Psychology and Decision Processing
Online Survey Design Guide
http://lap.umd.edu/survey_design/

Creative Research Systems.
Survey Design
http://www.surveysystem.com/sdesign.htm

Statpac, Inc.
Survey Design (downloadable tutorial)
http://www.statpac.com/surveys/

Websurveyor for Marketing.
Survey Design Considerations
www.web**survey**or.com/pdf/**design**tips.pdf

There are many tools available to create web surveys that are open source or low cost. The Laboratory for Automation Psychology and Decision Processing lists several open source survey instruments in their "tools" section.

Select a tool that is easy and intuitive to use and share, and that provides good, understandable displays for survey results. If you cannot find an open source survey tool that meets your needs, purchase a subscription to a low-cost tool.

Your assessment efforts should be directed to the design of an effective survey that provides the information you need in a consistent manner from all participants. Don't place your efforts on the design or implementation of the survey creation tool. There are too many acceptable tools available for free or at a low cost. Browse available tools and select a tool that meets your needs.

Focus group and one-on-one interviews with stakeholder groups—from volunteers and active supporters to first time visitors—can follow a needs assessment survey and provide nuance and detail to support the breadth provided by a needs assessment survey. Your stakeholders are busy people, and you won't get very many opportunities to engage them in a time-intensive activity like a focus group, so you will want to do careful preparation in advance.

At a minimum, a focus group should have a moderator who has either trained or read extensively in the literature on focus groups to prepare for this effort, as well as a recorder who can effectively document comments and interplay. It is important that the moderator is not vested in the organization's hopes and plans for the project, because it is very easy to lead a focus group to providing the information you want to hear rather than what they would tell an entirely objective moderator. Your focus group needs to represent the actual needs and desires of your audience and not validate your project design and goals. The validation (or course correction and redesign) comes later, as you analyze the results of the focus group to see if they are congruent with your preliminary objectives for the project.

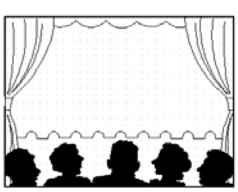
More guidance on designing and implementing effective focus groups can be found at these websites:

Beverlyn Lundy Allen, Nancy Grudens-Schuck, and Kathlene Larson.
Good Intentions, Muddled Methods: Focus on Focus Groups in *Journal of Extension* vol. 42, no. 4 (August 2004)
http://www.joe.org/joe/2004august/tt1.shtml

Center for Urban Transportation Studies
University of Wisconsin—Milwaukee
Guidelines for Conducting a Focus Group
http://www.uwm.edu/Dept/CUTS/focus.htm

Jacob Nielsen.
The Use and Misuse of Focus Groups
http://www.useit.com/papers/focusgroups.html

Losh, Susan Carol.
Focus Group Basics
http://edf5481-01.su00.fsu.edu/FocusGroups1.htm



Stage Two: Project Design

At this stage of project design, you are revising your expectations, and thus the outcomes that you hope to achieve, for your project, based on the needs assessment.

Your outcomes are the results of your project that demonstrate a real impact on your target audience. They should be developed from the point of view of the audience—the benefits your users would want to receive from this project.

At this point, you are ready to design your evaluation strategy to achieve these outcomes. An outcomes-based evaluation strategy is a practical and achievable methodology that has been endorsed by the Institute of Museum and Library Services, among others for assessing the success of a digital library project.

An evaluation strategy will often include **formative** evaluation, undertaken at the beginning of a project to measure the status of the intended audience with respect to your desired outcomes. For example, if an outcome is to increase the knowledge of students utilizing the collection about its subject matter, a brief knowledge survey might be administered by the teacher before she gives the students an assignment to view and utilize the collection.

If your collection utilizes an engaging activity, such as a “virtual scavenger hunt through Atlantic City” the first part of the activity might be a brief quiz and the last part of the activity might be the same quiz, to demonstrate that participants in the scavenger hunt increased their knowledge of Atlantic City.

The assessment that demonstrates the impact or outcome of the project is called the **summative** assessment.

Many evaluation strategies will employ both formative and summative assessments, to demonstrate a quantitative difference in audience knowledge, skills or attitude as a result of the project, the collection or an activity associated with the project.

A good guide to outcomes based assessment for nonprofit organizations, based on the United Way of America’s guide *Measuring Program Outcomes: A Practical Approach* is provided at the following link:

http://www.managementhelp.org/evaluation/outcomes.htm

This guide offers a useful strategy for developing a simple, outcomes-based evaluation strategy based on the core components of an outcomes-based evaluation strategy.

Your organization will set **outcomes**, impacts for your project or collection, e.g.,

- Visitors to the collection will understand the role of the Delaware and Raritan Canal in 19th century New Jersey transportation
- Our visitors will actively engage with the project to share their memories and digital memorabilia.
- K12 educators in the county will be aware of the digital collection
- K12 educators in the county will actively use the digital collection for lesson plans and homework assignments.
- 9th to 12th grade students at participating schools will know more about the culture and history of the Pine Barrens after completing the "virtual Pine Barrens" activities page than before completion.

These outcomes are then converted to **outcome targets**, which are the quantitative number or percentage of your audience that you want to achieve the outcome. This is often based on a formative evaluation that sets an initial benchmark. If a formative assessment indicates that 25% of your visitors can answer five questions correctly about the Pine Barrens, you will want to make the target for increasing knowledge about the Pine Barrens through your exhibit to perhaps 50%, or even higher.

Examples:

- 60% of Visitors to the collection who complete our survey will understand the role of the Delaware and Raritan Canal in 19th century New Jersey transportation.
- 30% of our visitors to the project website will be actively engage with the project to share their memories and digital memorabilia.
- 60% of Participating students will know more about the culture and history of the Pine Barrens after participating in the "virtual scavenger hunt" than before completing the activity.

Your ability to achieve, and to demonstrate achievement, of these outcomes is based upon the other components of the strategy:

- **Inputs:** the tools and resources that the program can utilize to achieve its objectives, such as a web server, Internet connection, staff, etc

- **Activities:** the processes or tasks the project undertakes to meet its outcomes, e.g., digitizing resources, creating metadata, developing the website, visiting schools, etc.

- **Outputs:** The units of service or measurement of activities. These are strictly quantitative and demonstrate a level of activity, but not an impact on your target audience, as the outcomes do. Examples include: number of visits to the website, number of photographs scanned, number of educational activities created, number of school uses of educational activities, number of visitors to the exhibit, etc.

- **Outcomes:** The impacts or benefits that you hope to achieve through your project or collection, ad discussed above.

- **Outcome targets:** The number and percentage of participants that you want to meet the outcome, as discussed above. This is your objective and quantitative objective for project success.

- **Outcome indicators:** These are the milestones that demonstrate your progress toward the outcome targets. Outcome indicators are valuable for course correction, to insure that you are moving along appropriately toward your outcome targets.

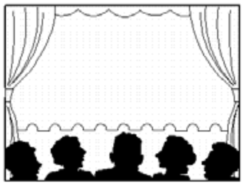
To learn more about Outcomes-Based Evaluation:

Institute of Museum and Library Services. *Outcome Based Assessment*.
http://www.imls.gov/applicants/obe.shtm

Institute of Museum and Library Services. *Project Planning Tutorial*
http://www.imls.gov/applicants/obe.shtm

Carter McNamara. *Basic Guide to Outcomes-Based Evaluation for Nonprofit Organizations with Very Limited Resources.*
http://www.managementhelp.org/evaluatn/outcomes.htm

IBEC. *Outcomes Toolkit version 2.0*
http://ibec.ischool.washington.edu/ibecCat.aspx?subCat=Outcome%20Toolkit&cat=Tools%20and%20Resources



Stage 3: Implementation

In the implementation phase of your project, you will do two types of evaluation. Evaluating the processes you develop so you can make course corrections for bottlenecks or inefficiencies and measuring your progress towards your outcomes by completing at least one set of outcome indicators.

Process Evaluation

In order to integrate digital collection building into your existing service repertoire and workflow, you need to assess the processes you develop. Are there digital collection building activities that are identical or similar to other current activities, so that you can achieve economies of scale and build on existing expertise? Can digital collection development be incorporated into current collection development activities? Can the staffing for Interlibrary Loan scanning be leveraged for collection digitization? Can the cataloging staff provide metadata for the digital collection? As you develop workflows, how successful are they? In your workflow analysis, look for the following:

- Economies of scale – processes that are very similar and can be batched together. Similar processes by different people also mean that task performers can back each other up.
- Backwards workflow – workflow that sometimes goes backward because questions must be asked. Can a decision tree be used so that work moves forward, rather than backward? How often does an exception occur that requires backwards workflow?
- Single performer. Is a single performer doing a critical process? What happens when that performer is away? Is cross training needed?
- Constant disruptions to a process. Is a process, or a performer doing a process, continually disrupted—by

phone calls, materials arriving, etc.—so that a process frequently stalls? How can these disruptions be batched or minimized?

- Unpredictable workflow. Does work arrive for a process in an unpredictable manner? Can these be batched for predictable handling?
- Managing to the 20%. Are there processes in place specifically to handle the 10-20% of exceptions that might occur for a process?

Examine each step in a process. Is it serving the 80% problem-free steps or the 10-20% of exceptions that occur? Can the workflow be modified to address the 80% and then catch the 20% via error reports and develop a second workflow for that 10-20%?

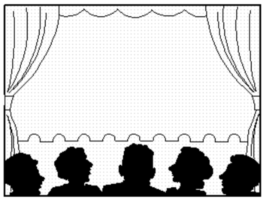
- Dependencies. For each process, identify the steps that depend on material or effort from another unit or department (internal or external) for the step to proceed, e.g. metadata depends on the digitizing of the object to be cataloged; indexing depends on the uploading of the object and the metadata, etc.

Workflow analysis can be accomplished with a walkthrough that may involve timing each step. A "talk through" analysis can be very useful, where a participant talks the evaluator through each step he is taking. This can help identify tools that are not clear, inconsistencies in task performance that may be due to faulty design or lack of contextual assistance, and also may identify areas of need for further training.

Outcome Indicator Development

Many of the same assessment tools that you used in the needs assessment may come into play here. You may do a survey or focus groups to determine how far you have progressed towards your outcome targets.

Another evaluation tool is **observation.** Observation can involve simply watching members of the target audience interact with your projects outputs or it can involve a "**talk through**," where the participant talks the evaluator through each step she is taking. Talk throughs are enormously helpful at this stage, for prototypes of major outputs, such as a website, search, browse and retrieval for an online collection and any online activities, such as lesson plans, interactive quizzes, etc. Talk throughs can identify unfamiliar jargon, difficulties in navigation or design, and places where contextual help is needed.



Stage Four

The most critical assessment occurs towards the end of the project, when you determine whether the outcomes you developed were met. You can employ the same repertoire of assessment tools utilized above. You will now be aiming for a broader representation of your target audience. For one thing, the final assessment will probably build your audience, since an actively marketed assessment that targets every area of your target audience will almost certainly introduce your project to many users for the first time.

A thorough assessment process will certainly identify outputs requiring revision. A very successful project will demonstrate the active engagement and interest of the audience in part through their willingness to participate in assessment activities, such as a summative survey, focus group or one-on-one interview.

The “final” assessment can provide a number of things:

- **Course correction:** What did not work and should be retooled or removed? It is important to place at least the executive summary of the project on the website, along with the strategy for revision of project outputs. You can build ownership for your project by demonstrating your responsiveness to suggestions for change.
- **New Directions:** The “final” assessment can provide a number of things, including next steps or new projects and collections that your audience would like to see. The assessment participants’ willingness to suggest next steps or new services also demonstrates engagement with, and ownership of, the project, which is important validation for the project. It also can be the first step in a needs assessment for the next project!
- **Marketing and outreach:** As noted above, a well-designed final assessment plan, that reaches a broad and representative range of the audience, will also be an effective outreach tool for building awareness and interest for the project and the collection.

The world "final" is in quotes because assessment is never final. Any project or collection, even if it does not require ongoing development, should be periodically assessed for usefulness. Outdated web pages and collections that are attracting no interest and engagement among the audience create a very bad impression of an "out of touch" organization. Your digital presence is as important as your physical presence and failure to keep the website and project up to date and useful is the equivalent of failing to fix nasty roof leaks and requiring your patrons to skirt around overflowing buckets to view your collections. You need to send a message that you are a responsive and engaged steward of your community's history and culture as much through your digital presence as you do through your physical presence.

Should I hire an outside evaluator?

An outside evaluator is useful for a number of reasons:

1. As the preceding pages have shown, evaluation is a fairly complex undertaking, much more than asking a few questions and tabulating the answers. A well-designed evaluation strategy is extremely useful in developing a project that truly has an impact on the audience you serve.
2. An outside evaluator will provide the necessary objectivity that is needed to determine that your project or collection really does fill a community need. It is too easy to "lead" your audience, in a focus group, a one-on-one interview, or even in a survey, to give you the answers you want. You are a public service organization that they value and they want to please you and to approve of your work. However, your job is to design new projects and services to address unmet needs, not to receive validation and approbation because of who you are and how much you are already valued in the community.

At the very least, an outside evaluator would be very useful to assist with:

- Focus groups, to insure that an objective moderator who is skillful at eliciting responses provides leadership for the focus groups.
- Survey design.
- Survey analysis
- Talk through analysis

Where can I find an evaluation consultant?

Strategies for locating evaluation consultants include:

- Peer institutions. They can often share evaluation strategies for their similar projects as well as providing contact information and a reference for any outside evaluator they employed.
- State agencies, for libraries, museums and archives, such as the New Jersey State Library
- Library schools
- Other relevant academic programs in local universities, such as Nonprofit management, Organizational Development, and Education.

If you are unable to find or cannot afford an outside evaluator, consider asking for help from members within a consortium, such as New Jersey Digital Highway.

Your project needs validation that its outcome targets were met and the overall impact was satisfactory. An advisory board can be an effective stakeholder group to provide this external assessment, in concert with an outside evaluator, or in place of an outside evaluator, if none can be identified. This advisory board should be drawn from your target audience and perhaps also from the administrators to whom you report, such as the Board of Directors for a public library. An Advisory Board is usually voluntary, so this is a cost-effective strategy for insuring that there is some level of outside review for the project.

Is there anything else I should know?

One critical last piece of advice! Your parent institution, particularly if you work for a university, may require that your assessment strategy be approved by an institutional review board, to insure that you are following best practices for the privacy and the emotional and physical well being of the participants in your evaluation. In most cases, if you can assure the privacy of the participants and the confidentiality of your responses, you can obtain a waiver from full Board review. However, if you engage in talk throughs or a laboratory assessment, where you provide a standardized information experiment or engage in advanced audience reaction assessment through strategies like eye tracking, you will have to go through full board review. It is important to contact your institutional review board representative early in the process and complete whatever is required for the necessary approval. An explanation of this process at your institution is generally available on the web page of the department responsible for administering grants and contracts.

Written September 1, 2006
Last revised September 1, 2006