
Information Use Management and Policy Institute

School of Information Studies, Florida State University

**MEASURES AND STATISTICS TO ASSESS THE FLORIDA
ELECTRONIC LIBRARY (FEL)**

By:

Charles R. McClure, Director and Francis Eppes Professor

cmclure@lis.fsu.edu

J. Snead, Research Associate

jsnead@garnet.fsu.edu

Kim M. Thompson, EBSCO Research Associate

thompson@lis.fsu.edu

John Carlo Bertot, Associate Director and Associate Professor

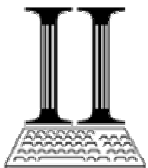
jcbertot@lis.fsu.edu

For:

The Florida Division of Library Services

October 9, 2003

(Revised March 19, 2004)



School of Information Studies
Florida State University
Information Institute
Tallahassee, FL 32306
<http://www.ii.fsu.edu>

TABLE OF CONTENTS

INTRODUCTION.....	1
BACKGROUND.....	1
OVERVIEW OF THE FLORIDA ELECTRONIC LIBRARY	1
IMPORTANCE OF EVALUATION IN THE FEL PROJECT	2
USING EVALUATION DATA	3
KEY EVALUATION TERMS.....	4
THE FEL EVALUATION PLAN	5
FEL GOALS AND OBJECTIVES.....	6
EVALUATION SCHEDULE.....	7
KEY EVALUATION TASKS	9
GENERAL STATISTICS AND MEASURES	12
DATA COLLECTION APPROACHES	12
DATA COLLECTION INSTRUMENTS.....	12
DATA COLLECTION METHODS	13
DATA COLLECTION LEVEL OF EFFORT.....	15
TIMELINE	15
ENSURING A SUCCESSFUL EVALUATION PROCESS.....	15

LISTING OF FIGURES AND TABLES

TABLE 1. FEL GOALS AND OBJECTIVES	7
TABLE 2. PREPARATORY AND FORMATIVE EVALUATION TASKS	9
TABLE 3. SUMMATIVE AND REPORTING EVALUATION TASKS.....	10
TABLE 4. FEL OUTCOMES, INDICATORS, SOURCES, AND METHODS	11

INTRODUCTION

BACKGROUND

In May of 2002, the Florida Library Network Council (FLNC),¹ assisted by RMG Consultants, Inc., published a three-year plan for a statewide virtual library entitled *The Florida Virtual Library: Plan for Statewide Implementation*.² This plan for statewide implementation of the Florida Virtual Library identifies six key technology components of the proposed virtual library and includes planning, procurement, and implementation processes. It also includes goals for five of the key components—excluding the virtual reference component scheduled for development in the fall of 2003. During the year following the initial release of this three-year plan, the Florida Virtual Library underwent a name change and is now referred to as the Florida Electronic Library (FEL).

In May of 2003, the Florida State Library contracted with the Information Use Management and Policy Institute of the School of Information Studies at Florida State University (Information Institute) to assess four pilot studies. The resulting assessment included: 1) the degree to which each of these pilot studies develops resource sharing goals with technology and services; and 2) the degree to which each of these pilot projects implement technology and services as outlined in the *initial* virtual library plan. Details of the *Review and Evaluation of Selected Florida State Library Pilot Projects: Phase 2* project are available on the Information Institute website,³ as are the results of the initial functionality study of selected trial portals, entitled the *Florida Electronic Library: Pilot Project Functionality Assessment* report, which was released August 6, 2003.⁴

Also in May of 2003, the Florida State Library contracted with the Information Institute to develop assessment criteria that can be used to evaluate the six key technology components of the FEL identified above for the time period following implementation of each of the components. The purpose of this report is to develop a preliminary evaluation plan for the FEL that will include evaluation methods, metrics, and a timeline. The intent of the evaluation plan is to provide a practical and useful means for assessing the FEL and to assist the FEL staff and others in evaluating the overall quality of the FEL in order to continuously improve its services and resources.

OVERVIEW OF THE FLORIDA ELECTRONIC LIBRARY

The purpose of the FEL is to provide statewide access and resource sharing of electronic

¹ <http://dlis.dos.state.fl.us/bld/FLNC.pdf>

² RMG Consultants, Inc. (May 2002). *The Florida Virtual Library: Plan for Statewide Implementation*. Available online at: <http://dlis.dos.state.fl.us/bld/FLVirtualLibPlanFinal.pdf>

³ Information Use Management and Policy Institute. (2003). *Review and Evaluation of Selected Florida State Library Pilot Projects*. Tallahassee, FL: The Florida State University. Available online at: <http://www.ii.fsu.edu/getProjectDetail.cfm?pageID=8&ProjectID=36>

⁴ Information Use Management and Policy Institute. (2003). *Florida Electronic Library: Pilot Project Functionality Assessment*. Tallahassee, FL: The Florida State University. Available online at: http://www.ii.fsu.edu/projects/2003/state_library6/functionality.report.09_14_03.pdf

resources and services to all residents of the state of Florida. Access to the service is provided by way of a Web-based interface (portal) capable of retrieving information from multiple sources using a single search engine and a single query. The FEL service plan includes providing statewide access to a set of licensed databases, a virtual union catalog, interlibrary loan service, local digital content, and real-time virtual reference capabilities all through the FEL portal.

Development of the FEL service is targeted to continue through the end of 2004. Testing of the statewide licensed databases component has begun⁵ and each of the other five components are currently under development.

IMPORTANCE OF EVALUATION IN THE FEL PROJECT

Ongoing evaluation efforts are essential for the FEL project. Evaluation provides project developers with information about:

- How well the project is proceeding;
- How well the project meets intended goals, objectives, and outcomes;
- The degree to which the FEL is meeting user needs; and
- If resources committed to the FEL are producing the desired results.

In addition, evaluation data provides a basis for project managers to report and communicate to the broader library, user, and political communities about the progress and success of the FEL.

Generally, an evaluation plan should include both formative and summative evaluation strategies.⁶ Formative evaluation *monitors* the progress of project activities and provides information collected in stages (such as quarterly or bi-annually). Formative evaluation helps decision makers *improve* the project during the project's planning and processing phases; and before, during, and after the project's implementation phases. Formative evaluation is an ongoing process.

Summative evaluation usually takes place at the end of the overall project but can also occur at specified time intervals (for multi-year projects). Summative evaluation occurs when specific *results* (objectives or goals) are met. Summative evaluation is intended to *prove* the degree to which results were accomplished and is used to determine whether or not immediate outcomes (*effects of results*) were realized.

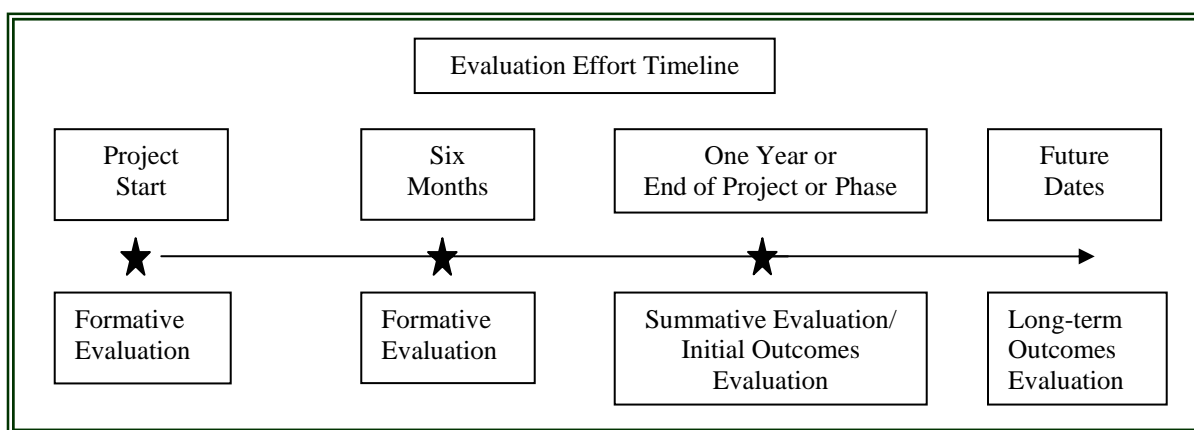
Summative evaluation occurs at termination points of a project's activities: a specified interval of time such as the end of a fiscal year, the end of a project phase, and/or the end of the overall project. Summative evaluation informs decision makers about results at these termination points. While it is typical to concentrate only on summative evaluations, both formative and

⁵ Information Use Management and Policy Institute. (2003). *Florida Electronic Library: Pilot Project Functionality Assessment*. Tallahassee, FL: The Florida State University. Available online at: http://www.ii.fsu.edu/projects/2003/state_library6/functionality.report.09_14_03.pdf

⁶ For more on formative and summative evaluation, see Thompson, K. M., McClure, C. R., & Jaeger, P. T. Evaluating Federal Websites: Improving E-government for the People. In J. F. George, (Ed.). *Computers in Society: Privacy, Ethics & the Internet*. Upper Saddle River, NJ: Prentice-Hall, 2003 (pp. 400-412).

summative evaluation efforts are necessary to refine and monitor the improvement of services throughout the term of the project.

Outcomes assessment is an evaluation approach used to determine the *immediate effects* of a project's results on the project's stakeholders and to assess *future effects* (long-term effects) of the results. Outcomes assessment determines the *impact* (effects) of results (e.g., the development and implementation of library services, resources, and programs) on stakeholders. Outcomes assessment determines benefits to stakeholders based on changes in skill, knowledge, behavior, attitudes, or conditions of individuals and/or particular stakeholder groups. These benefits are what library stakeholders gain from interaction with library services, resources, and programs. Outcomes assessment begins when a summative evaluation occurs. The results of activities of a program are assessed for short-term (immediate) and long-term *effects of results*.



Outcomes assessment begins when a summative evaluation occurs. The results of activities, such as the implementation of services, resources, or programs are assessed for short-term (immediate) and long-term *effects of results*. Outcomes to be assessed are derived from a project's overall goals and/or from specific goals created within phases of a project. Goals used to derive outcomes and included in this report are preliminary and are based upon documents provided to the study team by the Florida Division of Library Services.

USING EVALUATION DATA

Evaluation data collected from formative, summative, and outcomes evaluation efforts will assist decision makers in planning, implementing, and managing the FEL. The evaluation data that result from the evaluation efforts will provide baseline information that can inform decision makers as they discuss project activities and results.

While the main objective of all stakeholders is to create a better product, the different stakeholder groups, ranging from public librarians and library patrons to local and state government officials, may have differing ideas of what services and project details will best meet user needs. Despite the development and implementation of a high quality evaluation plan, different stakeholder groups can interpret evaluation data differently. With this in mind, serious

discussion and long-term planning based on evaluation results gathered with the data collection instruments and methods herein suggested are critical for the success of the FEL project.

The FEL presents interesting challenges from an evaluation perspective. As previously mentioned, the FEL is currently comprised of the six components listed below, each of which is subject to evaluation:

1. *Statewide Licensed Databases*: A set of commercial online databases that is licensed and available to all participating public and academic libraries in Florida and their registered patrons.
2. *Portal*: A common user interface that provides access to a range of statewide information resources in digital form.
3. *Virtual Union Catalog*: A statewide union catalog of the holdings of all Florida libraries that can be searched through the portal.
4. *Interlibrary Loan*: A statewide system that allows users to request library materials from any Florida library and provides for delivery of materials to users.
5. *Local Digital Content*: Local union catalogs and other local digital resources available through the portal.
6. *Virtual Reference*: An online interface available through the portal that provides users with reference services.

As the electronic library project progresses the FEL may evolve to include other services, content, and programs. At this time, however, these six components are the focus of the evaluation plan proposed in this document.

KEY EVALUATION TERMS

Goals are declarative statements created to aide in maintaining the focus and direction of a project over time. They function as long-term guidelines and are used in the continuing evaluation process of the development, implementation, and application of the project, both in its entirety and for individual components such as those identified for development within the FEL project.

Objectives are short-term goals created to aide the *active* development, implementation, and application of project programs. They are statements of *desired short-term results or achievements*. In order to achieve long-term goals, short-term objectives are set. These objectives specifically state the action or event that will occur to indicate progress toward the long-term goal. *Outcomes*, on the other hand, are long-term and describe a single client result where the change can be tied directly to the program.

A **goal** is a declarative statement of a desired future state – usually one to two years in the future.

An **objective** begins with an action verb and is a statement of a desired short-term future result or achievement with a specific time frame for completion.

An **outcome** describes a desired condition and the changes in knowledge, skills, behavior, attitude, or condition of a particular stakeholder group.

An **indicator** is a specific measure of change in knowledge, skill, behavior, attitude or condition that “indicates” how well the outcome is being accomplished.

A **source** answers “who” or “what” will provide data needed for the indicator.

A **method** is how the data will be collected.

Outcomes are derived from goals. They describe changes that occur within individuals of stakeholder groups where the changes are benefits received by participants as a *direct result of interaction with programs*. Outcomes *describe specific results or achievements* and how and to what degree these results and achievements are *directly related to a specific program*.

Outcomes are measured by *indicators* or specific measures used to “indicate” effectiveness of programming on outcomes. Existing records, program records, individuals, other organizations, and so forth, are *sources* of data for outcome indication, and systematic procedures, or *methods*, are employed in collecting data from the various sources.⁷

Outcomes assessment is one approach to project evaluation. The goals, objectives, outcomes, indicators, data sources, and methods of data collection included in this report are preliminary and based upon documents provided to the study team by the Florida Division of Library Services. This report can be used to begin the evaluation process, but the goals, objectives, outcomes, indicators, sources and methods suggested here must be carefully reviewed and considered by the FEL taskforce in order to guide the long-term progress of the FEL project.

THE FEL EVALUATION PLAN

The current charge for the Information Institute is to develop assessment criteria that can be used to evaluate the six key technology components of the FEL for the time period following implementation of each of the components. The purpose of this report is to develop a preliminary evaluation plan for the FEL that will include evaluation methods, metrics, and a proposed timeline. The intent of the evaluation plan is to provide a practical and useful means for assessing the FEL and to assist the FEL staff and others in evaluating the overall quality of the FEL in order to continuously improve its services and resources. Part of the development of this evaluative plan is to incorporate long-term goals, objectives, and outcomes for the FEL and each of its components. It is necessary to develop a set of *current working* goals, objectives, and outcomes to be used as the basis for developing evaluative measures and approaches within an evaluation plan.

Two initial FEL reports presented by RMG Consultants and the Florida Department of State⁸ identified specific goals, objectives, and outcomes for the initial planning stage for statewide implementation of individual components of the FEL. These original individual component goals, objectives, and outcomes guided the development of the initial planning process for each of the proposed components within the FEL. These initial reports, however, did not address the creation of specific long-term goals, objectives, or outcomes. Creation of these

⁷Division of Library and Information Services. (August 2003). *Library Services & Technology Act Grants: Guidelines & Applications*. Tallahassee, FL: Florida Department of State. Available online at: http://dliis.dos.state.fl.us/bld/grants/grants_docs/2003_LSTA_Application.doc

⁸ RMG Consultants, Inc. (May 2002). *The Florida Virtual Library: Plan for Statewide Implementation*. Available online at: <http://dliis.dos.state.fl.us/bld/FLVirtualLibPlanFinal.pdf>; and Florida Department of State. (2003). *Gateway to Information through Florida Libraries: An Outcomes Plan, 2003-2007*. Available online at: <http://dliis.dos.state.fl.us/bld/LSTAplan.pdf>

long-term goals, objectives, and outcomes is necessary for the continuing development, implementation, and application of the FEL throughout the term of the project, for both the FEL as an independent entity and for individual components within the FEL.

A subsequent report developed by the Information Institute, *Creating a Five Year Strategic Plan for Library Development in the State of Florida*,⁹ partially addressed this issue and presented one specific goal for the FEL with one outcome each for the following components of the FEL: Statewide database licensing, the portal, the virtual union catalog, the interlibrary loan system, and the local digital content.

FEL Goals and Objectives

The following FEL purpose statement, FEL goal, FEL component goals, and FEL component objectives are presented to address the need for a continual assessment flow throughout the entire term of the FEL project. Creating and linking the purpose, goals, and objectives will help to assure that future outcomes are directly linked to the original mission statement of the State Library of Florida.

The overall purpose of the FEL is *to provide statewide access and resource sharing of electronic resources and services to all residents of the state of Florida*. The overall goal of the FEL as presented by the Information Institute report mentioned above ensures that:

Florida residents have electronic access to information resources and services through the Florida Electronic Library.

Derived from this primary overall goal of the FEL and drawing from previously developed goals for each of the six components, a comprehensive set of long-term goals and objectives for each component of the FEL has been developed within this report. Outcomes with accompanying indicators and sources/methods for each of the individual components are presented later in this document (see Table 4).

Using information collected from the initial reports by RMG, the Florida Department of State, and the Information Institute, the Information Institute has developed one goal and several objectives for each individual component of the FEL (see Table 1 below).

⁹ Information Use Management and Policy Institute. (2003). *Creating a Five Year Strategic Plan for Library Development in the State of Florida*. Tallahassee, FL: The Florida State University. Available online at: <http://www.ii.fsu.edu/getProjectDetail.cfm?pageID=9&ProjectID=6>

Table 1. FEL Goals and Objectives

FEL Component	Goals	Objectives
Statewide Database Licensing	Offer statewide access to select licensed databases.	1. Develop a training program utilizing instructional modules for navigation, searching, and utilization of all databases and their content.
		2. Develop a training program utilizing the virtual help desk for navigation, searching, and utilization of all databases and their content.
Portal	Create uniform Web site and user interface with content that is searchable and accessible.	1. Retrieve information from multiple sources with a single search engine using a single query.
		2. Provide a coherent and unifying point of access to a variety of online resources available through the FEL.
		3. Meet Federal accessibility standards.
		4. Provide capabilities for identification, authentication, and authorization of users for access to services and restricted resources.
Virtual Union Catalog	Create virtual union catalog that will retrieve all available materials in the State.	1. Link all Florida public and academic virtual union catalogs.
		2. Assess the effectiveness of identifying, locating, and reporting availability of library materials.
		3. Incorporate enhanced catalog content into retrieved bibliographic record displays.
Interlibrary Loan	Provide registered borrowers access to circulating materials statewide.	1. Obtain materials from the FEL using a statewide virtual borrower's card.
		2. Assess the ability of searchers to select target libraries and the number of targets that are searchable at one time
		3. Assess training requirements for end user to conduct ILL on his/her own.
		4. Develop a training program utilizing instructional modules along with the virtual help desk.
Local Digital Content	Offer statewide access to select local digital content.	1. Assess if inclusion of local digital content benefits users of the FEL statewide.
		2. Define specific requirements for selecting a proposed local digital project
		3. Develop standards of interoperability for inclusion of local digital projects.
Virtual Reference	Provide users with online access to reference services.	1. Provide every library in the state with a one-stop reference interface.
		2. Offer local access to virtual reference software.
		3. Test the guidelines for disparate system interoperability and interconnectivity of NISO's Networked Reference Services (Committee AZ).

While these working goals and objectives can be used to begin evaluative measures, it is important to note that the FEL taskforce may need to agree on additional goals and objectives that will guide the long-term efforts related to the FEL project.

EVALUATION SCHEDULE

The study team recommends that evaluation efforts be reported every six months (formative evaluation strategy) to ensure that the goals and objectives for each component of the

FEL (see Table 1) are being met. A schedule for future evaluation should be developed, and any existing goals, objectives, and outcomes should be evaluated and, if necessary, modified based on the results of the initial evaluation process. In identifying goals, objectives, and outcomes that are most important for formative evaluation, priority should be given to those activities that require the greatest resource commitment, those that have the greatest potential impact on users of the FEL, and those from which the most useful information could be obtained to fine tune that particular project component.

The initial summative evaluation strategy will need to begin at the completion of the implementation phase of each component. Summative evaluation should follow the completion of targeted objectives, or at a designated benchmark point (say one year after formal project implementation) to assess the progress toward achievement of the goals identified for each of the components.

The initial outcomes evaluation strategy will need to begin at the completion of the first summative evaluation and continue with each succeeding summative evaluation effort. The summative evaluation will assess the results of the implementation of each component of the FEL, and the outcomes evaluation will begin the assessment of the effects of the results, both initial effects and potential long-term effects.

Every effort should be made to use data from the formative evaluation strategy to inform the summative evaluation strategy and the outcomes evaluation strategy. For each goal, the summative evaluation should:

- Describe the degree to which progress has been made in realizing that goal,
- Identify the factors that contributed to realizing the goal and the factors that inhibited realizing the goal,
- Inform the outcomes evaluation strategy as to results for determining effects of the results, and
- Suggest how this goal and its accompanying objectives and outcomes need to be modified in the future.

Based on this summative assessment, project developers will want to review the various summative and formative evaluation results. Also, project developers will want to assess the effects of the results on stakeholders using the outcomes assessment approach. The culmination of all three evaluative efforts—formative, summative, and outcomes—will help project developers determine how best to proceed with the FEL planning, implementation, management, and continuing evaluation as part of an ongoing evaluative process.

KEY EVALUATION TASKS

Successful evaluation of the FEL will depend upon the identification, description, and planning for key evaluation tasks. The study team has identified the following ten tasks for the assessment of the FEL. The first five are formative evaluation tasks. They are preparatory in nature, occur at set time periods, and are meant to improve the project as it unfolds (see Table 2).

Table 2. Preparatory and Formative Evaluation Tasks

Task	Task Name	Responsibilities	Activities
1	Management of the evaluation process	An evaluation process manager: <ul style="list-style-type: none"> Needs to be appointed or designated; and Has the primary responsibility of management of the evaluation process. 	Management responsibilities would include: <ul style="list-style-type: none"> The overall evaluation process; The determination, designation, and appointment of others within the process including work groups or committees involved in the evaluation process; The development of the budget, timeline, and tasking of the evaluation process; and The development, design, and implementation of a management information system.
2	Development of goals and objectives	Includes all parties involved in the development of the evaluation process: <ul style="list-style-type: none"> The evaluation process manager, Development teams, Committees, Consultants, etc. 	Need to reach consensus on: <ul style="list-style-type: none"> The stated goals, objectives, and outcomes of the process; Any necessary revisions to these goals, objectives, and outcomes as they occur; and The inclusion of new goals, objectives, and outcomes as the development and implementation of individual components evolve.
3	Development of measures and indicators	Includes all parties involved in the development of the evaluation process: <ul style="list-style-type: none"> The evaluation process manager, Development teams, Committees, Consultants, etc. 	Need to reach consensus on: <ul style="list-style-type: none"> The initial measures and indicators to be used in the data collection process; Any necessary revisions as they occur; and The addition of data collection instruments as needed.
4	Development of schedule and timeline of evaluation activities and events	Includes all parties involved in the development of the evaluation process: <ul style="list-style-type: none"> The evaluation process manager, Development teams, Committees, Consultants, etc. 	Need to reach consensus on: <ul style="list-style-type: none"> A schedule for evaluation activities and events, A timeline for implementation of the schedules and events, and An evaluation process geared towards evaluating specific methods used in the data collection process (Table 4).
5	Pretest of data collection instruments	All data collection instruments need to be pre-tested as part of the evaluation process.	These include: <ul style="list-style-type: none"> The initial data collection instruments, Revised data collection instruments, and Any additional data collection instruments added during the development stages of each component.

The second set of five evaluation tasks are summative and are intended to assess the effectiveness of the electronic library in meeting the goals set for the FEL project by the Florida Division of Library Services and the FLNC and to prepare for the reporting of the evaluation efforts (see Table 3).

Table 3. Summative and Reporting Evaluation Tasks

Task	Task Name	Task Activities	Task Details
1	Management and administration of data collection instruments	Implementation begins as soon as individual roles and responsibilities are established and assigned for each data collection instrument and a schedule of collection activities is created.	A schedule of collection activities is necessary because: <ul style="list-style-type: none"> The data collection process will continue throughout the entire evaluative process, and Individual data collection activities will have specific time frames for implementation that will overlap other data collection activities.
2	Report generation	Reports need to be generated as soon as data collection activities and analyses are completed.	The reports should: <ul style="list-style-type: none"> Be professionally done, Have high impact, Use clear and understandable graphics, Be short and concise, and Target general audiences and/or specific stakeholder groups.
3	Database design	The Florida Division of Library Services and/or the FLNC will decide database design and the design of components.	A database will be created that can be used to organize evaluative statistics and related data sets. Design of this database should consider: <ul style="list-style-type: none"> New and existing FEL statistics and data sets A login mechanism A communications feature for training and Q & A Report format and delivery
4	Dissemination	An information dissemination plan needs to be created to ensure that designated report recipients receive specific reports.	A dissemination plan ensures that specific reports are delivered to: <ul style="list-style-type: none"> The key stakeholders for the specific reports, The partners, etc. of the project, and Any other interested parties such as scholars, politicians, etc.
5	Explanation	Report results need to be discussed regarding: <ul style="list-style-type: none"> Implications, Future efforts, Refinements, etc. 	Types of discussion may include: <ul style="list-style-type: none"> Question and answer sessions, Conferences, Symposiums, or Similar events.

Formative and summative tasks structure the evaluation process. Combined, these tasks offer a comprehensive approach to the overall evaluation effort.

The following table provides a proposed list of outcomes, indicators, and sources/methods for assessing the FEL (see Table 4). The outcomes reflect the long-term purpose of the individual goals of each component. These are subject to change as part of the ongoing evaluative process as the individual components of the FEL are developed and implemented.

The first outcome for each of the first five components of the FEL are taken directly from the report *Creating a Five Year Strategic Plan for Library Development in the State of Florida*.¹⁰ The study team derived additional outcomes based on the original purpose statement.¹¹ Outcomes for the Virtual Reference component have been derived from the 2003 LSTA

¹⁰ Information Use Management and Policy Institute. (2003). *Creating a Five Year Strategic Plan for Library Development in the State of Florida*. Tallahassee, FL: FSU. Available online at: <http://www.ii.fsu.edu/>.

¹¹ "Florida residents have electronic access to information resources and services through the Florida Electronic Library."

Outcomes Plan.¹² Additional outcomes for the Virtual Reference component can be found in this Plan.

Table 4. FEL Outcomes, Indicators, Sources, and Methods

Goal	Outcome	Indicator	Source/Method
Statewide Licensed Databases			
Offer statewide access to select licensed databases.	Florida residents actively use statewide licensed databases for informational needs	Average searches per day.	Server logs and report analysis
	Residents can search a satisfactory selection of on-line resources.	x% of searchers who rate their results as satisfactory.	Online user survey. Online staff survey.
Portal			
Create uniform Web site and user interface with content that is searchable and accessible.	Florida residents use the virtual library portal to retrieve information from multiple sources with a single search engine.	x% of searches that result in multiple sources.	Server logs and report analysis
	Portal provides a coherent and unifying point of access to a variety of online resources.	x% of searchers who rate their results as satisfactory.	Online pre and post user survey.
	Portal meets federal accessibility standards.	x% of minimum ADA requirements met.	Functionality test
Virtual Union Catalog			
Create virtual union catalog that will retrieve all available materials in the State.	Residents can access and search the contents of most Florida public and academic virtual union catalogs for informational needs.	x% of searchers who rate their results as satisfactory.	Online pre and post user survey.
	The virtual union catalog provides a consistent user interface.	x% score of each criteria tested.	Web page analysis
Interlibrary Loan System			
Provide registered borrowers access to circulating materials statewide.	Residents obtain materials from any Florida library through interlibrary loan or a statewide virtual borrower's card.	Average turnaround time and fill rate for items requested will show improvement over a one-year period.	ILL statistics based on a sample of requests
	Residents are satisfied with interlibrary loan service.	x% of searchers who rate their results as satisfactory.	Online pre and post user survey
Local Digital Content			
Offer statewide access to select local digital content.	Residents access digital or electronic local content through the virtual library.	Average searches per day	Server logs and report analysis
	Residents are satisfied with the access to local digital content.	x% of searchers rate their results as satisfactory.	Online pre and post user survey
Virtual Reference			
Provide users with online access to reference services.	Public uses technology to obtain desired information	Number of live reference sessions.	Vendor-provided statistics
	Residents use the virtual reference interface to ask reference questions.	x% of users indicate their question received a satisfactory answer.	Online user survey

¹² LSTA Outcomes Plan. (2003). *Collaborative statewide live reference: CCLA and TBLC working together*. Tallahassee, FL: College Center for Library Automation.

Note that the performance scores for the indicator column on Table 4 have been left blank at this time. Additional discussion among the director of the FEL project, the members of the FNLC, and the study team should occur to determine what these indicators should be.

GENERAL STATISTICS AND MEASURES

DATA COLLECTION APPROACHES

Data collection often is the most costly aspect of an evaluation endeavor, as it requires training of data collectors and a commitment of time and effort from administrators, library staff, and participants. The FLNC along with the Division of Library Services will need to decide upon a number of data collection processes. Options for a data collection process include: data will be collected by local Florida library personnel and then reported to the State Library; the State Library can take primary responsibility for data collection and reporting; or a work force can be developed specifically to oversee data collection, data compilation, and reporting results. No matter which approach is taken for data collection efforts, it is important that the individuals involved in the data collection effort are carefully trained in the appropriate methods for data collection.

The amount of data that will be collected depends largely upon the amount of time and effort focused on the data collection and the depth of data collection. Similarly, the overall costs of the data collection will depend on the amount of staff time, training, and the extent of the data collection efforts. As noted in the evaluation sections above, serious discussion and long-term planning is critical to the success of the data collection phase of the FEL evaluation project.

DATA COLLECTION INSTRUMENTS

To ensure both reliable and valid data, it is important to use tested and proven data collection instruments. Clearly, there are numerous types and flavors of data collection instruments available. Regardless of the types of instruments developed and implemented, they should each:

- Obtain data that addresses the goals and objectives identified in Table 1;
- Be specific to the indicators created for the outcomes identified in Table 4;
- Be cost-efficient and cost-effective to administer;
- Be pre-tested and refined to assure that they are collecting reliable and valid data;
- Provide longitudinal data such that trends over time can be identified;
- Be feasible to implement in an easy and timely fashion; and
- Use standardized terms and definitions such that data from one data collection instrument can be compared to data from other data collection instruments.

To the extent possible, the data collection instruments should be implemented as part of the FEL service such that data are automatically collected as services are used. In addition, the data collection instruments should provide data that can be used to generate findings that are understandable and meaningful to different stakeholder groups.

Stakeholders

The data collection instruments are likely to focus on the following users and organizations:

- FEL users
 - Patrons (remote or in-library users)
 - public
 - academic
 - other
 - Library Staff
 - public
 - academic
 - other
- Organizations
 - Libraries
 - public
 - academic
 - other
- Other specific groups (policy makers, state and local government officials, legislature)

The degree to which the data collection activities can be combined across these groups will not be clear until more about the individual FEL components is known. In addition, some groups may use one but not other FEL components.

DATA COLLECTION METHODS

There are numerous data collection methods that can be used successfully in the evaluation process to obtain necessary data to describe the measures and indicators outlined in Table 4. The methods described below are a sampling of collection methods that can be used to collect user data:

- *Online surveys including pop up surveys:*¹³ These surveys are administered as part of the online services and can include random “pop-up” surveys that are completed by users. A benefit of this approach is the potential for immediate coding and organizing of data into a database or inclusion into structured files.
- *Print-based surveys:*¹⁴ These surveys would be administered via the mail or at selected organizational meetings or other settings where the target audience is available. Once

¹³ For additional guidelines and information about electronic surveys, see: Lazar, J. & Preece, J. (2001). Using electronic surveys to evaluate networked resources: From idea to implementation. In C. R. McClure and J. C. Bertot, (Eds.), *Evaluating networked information services: Techniques, policy, and issues*. Medford, NJ: Information Today, (pp. 137-154).

¹⁴ For additional guidelines and information about print surveys, see: Fowler, Jr., F. J. (1998). Design and evaluation of survey questions. In L. Bickman and D. J. Rog (Eds.) *Handbook of applied social research methods*. Thousand Oaks, CA: Sage Publications, (pp. 343-374).

collected, data would be keyed and entered to produce a database or file for subsequent analysis.

- *Focus groups:*¹⁵ A focus group setting allows the evaluators to identify potential evaluation needs or to probe follow-up areas in the evaluation process for additional information that would not otherwise be obtained in a print-based format.
- *Interviews:* Evaluators may find it useful to conduct individual interviews with key people associated with the development of the FEL as well as users of the FEL.
- *Usability assessment:*¹⁶ This approach tests the degree to which aspects or components of the FEL are easily used and understood by those individuals who are expected to access and use the FEL.
- *Log file analysis:*¹⁷ Web servers routinely generate and maintain transaction log files that track a range of information about the users of the files on that server--the time such use was made, hits per page, visits, the pages on a website most frequently accessed, etc. Software packages, such as WebTrends and WebTracker can be programmed to automatically collect and collate targeted log usage data and to present summary reports of the disseminated data in graphic form. Useful information on user interaction with the contents of a system can be routinely collected and presented offering daily, weekly, and monthly statistics of system usage for analysis. These statistics require minimal input for collection and can become a valuable tool for evaluation planning and assessment of the efficiency and effectiveness of information delivery systems.¹⁸ Were this technique to be employed, the study team would rely on installing it on a central server (if possible) and not at all participating libraries.
- *Activity logs:* These are self-maintained logs of librarians, users, or others regarding specific services and programs within the FEL. Individuals are provided with the log and asked to maintain a record of their activities, views, or problems encountered and then to provide the log to the evaluator.
- *Unobtrusive assessment:* This approach allows for surrogates to test or use aspects of the FEL and as they use FEL services assess the success of such use against a set of specific criteria.

This list of data collection approaches is illustrative only – additional strategies and issues related to these approaches can be found in standard social science research textbooks.¹⁹ Selection of which data collection method is “best” for a particular measure depends on the likelihood of obtaining a response from the target population, type of data needed, cost to collect and analyze data, quality of data obtained, ease of administration, and degree to which the data can be captured in databases or structured files for subsequent analysis.

¹⁵ For additional guidelines and information about conducting focus groups, see: Krueger, R. A. & Casey, M. A. (2000). *Focus groups: A practical guide for applied research*. Thousand Oaks, CA: Sage Publications, Inc., 2000.

¹⁶ Information on Usability assessment can be found at www.usability.gov; see also information on the Usability Center at the Information Institute: http://www.ii.fsu.edu/Usability_Center/contact.html.

¹⁷ For additional guidelines and information about log analysis, see: Rubin, J. H. (2001). Introduction to log analysis techniques: Methods for evaluating networked services. In C. R. McClure and J. C. Bertot (Eds.) *Evaluating networked information services: Techniques, policy, and issues*. Medford, NJ: Information Today, (pp. 197-212).

¹⁸ Log analysis software can be purchased and installed for specific servers to provide summary reports and graphics. For more information on WebTrends, see: <http://www.netiq.com/webtrends/default.asp>.

¹⁹ See, for example: Earl Babbie, *The Practice of Social Research*, 7th ed. Belmont, CA: Wadsworth Publishing Company, 1995.

A number of the measures described in Table 4 will require data related to the use of components of the FEL. This usage data will need to be collected, minimally, in terms of: type of user, setting in which the user made use of the service or program, frequency of such use, and the demographics of that user. To the extent possible, the various programs and services to be provided within the six components should be designed to automatically collect this data as part of the service or program. Thus, designers of the services and programs need to consider *technical* approaches to build such data collection into the services and programs themselves. It is unlikely that there will be adequate time, personnel, and other resources to provide extensive surveys and personal log maintenance. Finally, usage as an indicator of impact and success of the FEL will be critical for obtaining continuing support for the project.

DATA COLLECTION LEVEL OF EFFORT

Recommended data collection efforts outlined in Table 4 are for specific outcomes relative to specific goals. The study team suggests that an overall *basic* data collection effort will produce information to address and include goals and related objectives from Table 1 and outcomes highlighted in Table 4. Individuals from the various working groups will review these initial recommendations for data collection during the formative evaluation process for each independent component and may wish to revise those identified as *basic* after additional discussion in light of final planning and in light of revised evaluation statements from the individual work groups. Additional *basic* data collection efforts can be developed to address individual objectives based on recommendations from the formative evaluation process.

TIMELINE

A proposed timeline for the evaluation of the FEL is:

- | | |
|---|---------------|
| • Agree on evaluation approach (as presented here) | Mar 2004 |
| • Agree on Goals, Objectives, Outcomes and Indicators | Mar 2004 |
| • Develop organizational structure to manage evaluation | Apr 2004 |
| • Develop data collection instruments | Apr-May 2004 |
| • Pretest and refine data collection instruments | May-June 2004 |
| • Begin evaluation | Jun 2004 |
| • Begin reporting | Sep 2005 |

The actual timeline will depend on the implementation of the various components of the FEL, how the evaluation is organized, and the extent of evaluation that is actually done.

ENSURING A SUCCESSFUL EVALUATION PROCESS

The development of formative and summative evaluation strategies for the FEL is key to the development of an ongoing evaluation effort. This evaluation proposal presents sets of recommended tasks for developing these evaluation strategies. In addition, this proposal presents a process for implementing these strategies in the evaluation of goals, objectives, and outcomes;

offers preliminary goals and objectives for each of the components of the FEL; and develops a preliminary list of outcomes with accompanying indicators and suggested source/methods for each of the outcomes.

Further development of this evaluative proposal needs to be considered as each of the components of the FEL are independently implemented, tested, and refined. The study team offers the following recommendations to the Division of Library Services of the State of Florida and the FLNC for consideration in their continuing efforts to meet the evaluative needs of the FEL as it develops over time:

1. Develop one working group for data collection and data analysis purposes comprised of members around the state who will work in cooperation with the taskforce director (Mark Flynn's title) in compiling statistics on the use, effectiveness, and impact of the FEL.
2. Conduct focus groups and interviews with taskforce members concerning the continuing development of the evaluative process and coordinate these focus groups and interviews with existing statewide meetings and conferences to reduce commitment of time and costs to taskforce members.
3. Develop online training and data collection modules for individual components of the FEL.
4. Develop and use electronic data collection instruments whenever possible to reduce the physical resources necessary for data collection and data analysis as part of the ongoing evaluative process.

Outcomes assessment as presented within this proposal is a single long-term approach in an overall evaluation of the FEL. As an approach, its impact on the goals and objectives of the Florida Electronic Library utilizing outcomes-based interventions need to be further developed through time. Additionally, alternate evaluation approaches can and should be considered and developed to meet specific evaluation needs as they are identified by focus groups, within the interview process, and through the use of the formative and summative management strategies presented within this proposal. The FLNC taskforce, FEL work groups, and the Division of Library Services are the logical bodies within the FEL management structure to recognize and oversee implementation of the continuing development of the outcomes-based assessment approach and the development of alternate evaluative approaches as needed.