Strategies for the Implementation of Visual Resources Management into LIS Curriculum

This document presents possible approaches to integrating visual resources (VR) into a Library and Information Science (LIS) curriculum in ALA-Accredited schools in the US. This information was gathered via a web-based survey of existing library and information schools in the US which was conducted in the spring of 2007. The school websites were surveyed for information on programs, degrees and courses offered, as well as for the available syllabi. This was done to determine which existing courses are most useful for VR, as well as how the programs function.

Existing Infrastructure

Infrastructure refers to the resources that are available to LIS programs through their existing curriculum and institutional organizations. This includes resources that are available to them from within their home department or school, as well as connections throughout the university.

Existing infrastructure within LIS program: A list of concentrations, tracks and specializations that currently exist in LIS programs and that are relevant to VR. Concentrations, tracks and specializations are defined as any course of study that allows a student to become proficient in a specific area of LIS curriculum. Although these may go by different titles, they are found in many schools. Listed here are only the tracks that may be relevant to VR.

Archives and Special Collections. This track may go by different names in different schools. Although the scope may vary, this track focuses on archival management. Related courses in VR may include:

- Preservation Management
- Records Management
- Metadata and Access
- Multimedia Systems
- Information Services
- Web Design (Web System Design and Management)
- Archives Users and Outreach
- Research Methods
- Electronic Records
Preservation Management. This is sometimes included under the Archives track, but some schools do offer it as a separate specialization. Related courses in VR may include:

- Digital Preservation
- Preservation Management
- Museum Archives
- Archival Representation
- Digital Image Collections
- Digital Libraries
- Digitizing Library and Research Collections for Access
- Database design and Applications
- Special Topics (i.e.: XML)
- Preservation of Cultural Records

Conservation. As with Preservation, this is sometimes included under the Archives track, but some schools do offer it as a separate specialization. Preservation Management is an umbrella term that often encompasses conservation. Related courses in VR may include:

- Historical Museums
- Introduction to Electronic and Digital Electives
- Information Preservation and Reformatting
- Life Cycle Metadata for Digital Objects

Information Organization. This track is often found by different names, but in general it prepares students for careers in cataloging, indexing, metadata, archival organization, or records management. Many of the courses here should be evaluated carefully because, while some programs may include VR as a prominent component, others may not cover it at all. Related courses in VR may include:

- Indexing
- Cataloging
- Classification
- Records Management
- Descriptions in Archives
- Special topics (cross-cultural issues, organizing digital resources, classification theory)

Information Analysis and Retrieval. This track is designed to teach students concepts relating to information storage in computer systems, how information is searched and analyzed, and access issues. Related courses in VR may include:

- Networks- Theory and Application
- Language and Information
- Preserving Information
- Digital Libraries
- Information Visualization
School Library Media Specialist. This is a track that exists in a number of LIS programs. Although there may be some coverage of VR, the courses seem to focus more on use of visual resources, rather than more in-depth topics in VR management. Related courses in VR may include:

- Selection and Evaluation of Non-print and Electronic Resources for Learning
- Technology Integration into the Schools

Special Libraries. This track is common in LIS programs. However, it varies in scope, and some components may be more useful to VR than others. For instance, if the special libraries track includes museums or digital libraries, the courses are likely to be more useful from a VR perspective. Related courses in VR may include:

- Digital Libraries
- Information Architecture
- Semantic Web
- Database Management
- Information Storage and Retrieval (with an emphasis on non-book and electronic materials)
- Film and Media Libraries
- Museums and Object Collections
- Government Documents (especially if there is an emphasis on creation of electronic government documents)

Digital Image Management. This concentration may include creation, management and presentation of digital images and other digital objects including moving images. Related courses in VR may include:

- Digital Imaging (especially if it is offered for Information Professionals)
- Metadata
- Copyright and Licensing
- Art Museumship
- Museum Education
- Multi-media for Art and Design

Access. This track focuses on the creation and maintenance of collections so that they are completely accessible to the user groups. Related courses in VR may include:

- Information Access (especially in the arts and communications areas)
- Legal Access and Copyright

Health Librarianship or Informatics Specialist. This track may have different titles, but it focuses on the information needs of a librarian in the health field. Related courses in VR may include:

- Digital Imaging Management
List of VR-related courses in LIS programs:

These are courses that are common at most library schools which are relevant to VR. They may or may not be in some of the tracks described above. The titles will vary slightly from school to school.

- Information Technology or Technical Services
- Database Design
- Digital Libraries
- Special Libraries (especially digital, museum, film, photographic)
- Preservation in Archives
- Digital Archives
- Electronic Information Resources
- Human Computer Interaction
- Humanities Librarianship
- Networking and Network Multi-media
- Preservation of Information Materials
- Information and Image Management
- Design and Production of Media Resources
- Information Architecture
- Information Graphics
- Management of Media Centers
- Collection Development
- Rare Books and Collections Specialist
- Preservation Management
- Online Information Industry
- Electronic Publishing
- Database Design
- Special Topics (Current Topics): These courses are offered at almost every university. The topics tend to change every semester and very often provide course material which is highly relevant to VR. Some may include:
  - Visual Resources Management
  - XML
  - Systems Web-engineering

Existing infrastructure in other degree programs. This is a list of other degree programs that are relevant to VR, along with some of their most relevant courses. Some programs may already be integrated or have linkages into the LIS programs at some schools, while others may not be available at all at the university. The programs listed below can provide the breadth and context that are central to the VR curriculum.
**Museum Studies** - This discipline is very connected to VR because museums deal extensively with visual resources. Relevant courses may include:
- Museum Conservation
- Museums and Interactive Technologies
- Exhibition Planning and Design
- Museum Collections and Exhibitions
- Preservation and Historic Preservation
- Material Culture
- Museum Management
- Research Methods
- Museum Informatics

**Public History** – This can be closely related to archival studies, but is also related to curator-ship in historical museums and film and documentary studies
- Curatorial Practices
- Multimedia History
- History and the Visual Record
- Material Culture

**Computer Science** - These programs may provide some of the technology competencies that are not covered, or not completely covered, within the LIS program. Relevant courses may include:
- Computer graphics
- Database systems
- Computer Communications and Networks

**Information Management**: Relevant courses may include:
- Management of Information Programs and services
- Strategic Information Management
- Human Computer Interfaces
- Web Databases and Management

**Information Technology**: This program may be included under the LIS curriculum, or exist on its own. It is useful for technological competencies. Relevant courses may include:
- Interface Architecture
- Graphical Elements of User Experience

**Human Computer Interaction**: This program may be included under the LIS curriculum, or exist on its own. Relevant courses may include:
- Design of Websites
- Multimedia Production
- Visual Persuasion
- Database Application
Information Economics and Policy: Relevant courses may include:

· Intellectual Property
· Digital Government Documents
· Networking
· Management of Electronic Records

Communications: The relevance of this program to VR varies greatly from school to school, depending on the focus of the program, for instance, the focus on visual media. Relevant courses may include:

· Public and Mass Communications
· Children Youth and Media
· Mass Media (and related topics)
· Critical Studies of Film, Television, and Popular Culture

MFA (masters of fine arts) – Again, the focus of these programs may vary from school to school. The components that would be most helpful to VR managers include visual media and creation, preservation, cataloging of the objects. There are several programs which fall under this MFA:

Art History: helpful courses may include:

· Film (this may be on different topics at different times)
· Art Criticism

Visual Studies: this may include art and art history, as well as museum studies courses

· Introduction to Visual Study
· Communication Design
· Design for New Media
· Visual Culture
· Electronic Art (including other tools than regular computers)
· Art Management

Studio Art: this is a program that is less relevant for VR management, but may meet competencies within the areas of creation of visual resources. Some courses may include:

· Media Studio
· Graphics
· Photography (including advanced photography)

Art, Design, and Architecture: Although in general this program seems far removed from VR, it may still contain many relevant topics and issues. Courses may include:

· Materials, Techniques & Conservation
· Several Art History electives

Moving Image Archives: Most of the courses in this program are completely relevant to VR. The courses cover the basic areas of LIS curriculum (archiving, collection development, etc.), but are specifically focused on the medium of moving images. Instead of taking the core courses from the general LIS
curriculum, the Moving Image Programs have created cores that are all specialized for the discipline. Relevant courses may include:

- Archaeology of the Media
- Moving Image Archiving: History Philosophy and Practice
- Moving Image Preservation and Restoration
- Moving Image Cataloging
- Collection Development
- Moving Image Collections- how to provide access

Legal Librarianship- This program is not directly related to VR in most cases, but is often offered by LIS schools as a concentration or dual degree. From this program, courses covering copyright are especially relevant.

- Copyright issues (especially for digital media)

Digital Media/ Digital Arts- If this program includes interdisciplinary studies in visual media production, design, and storage, it will be especially useful for VR. Relevant courses may include:

- Creating code for Digital Media
- Graphics/ Computer Graphics
- Digital Imaging
- Digital Media Studies (integration of digital media with authoring presentation tools)
- Design for Digital Media
- Art Media (may include courses for digital museums)
- Video Editing
- Audio for Digital Media

Visual Studies- Visual studies programs that emphasizes the exploration and interpretation of visual materials, as opposed to the functions of human vision, will be most helpful for VR. They can come under the umbrella of MFA. These programs deal with the theoretical and analytical aspects of the discipline, but rarely include anything in organization, preservation or display. This might be an ideal discipline with which LIS programs may ally themselves. It would provide depth and context for the LIS students who study VR. Reciprocally for the visual studies program the LIS courses can provide additional perspective, and contexts. Relevant courses may include:

- Visual Studies (often given at different levels i.e.: introductory, advanced)
- Visual Anthropology
- Aesthetics of Visualization
- Visual and Cultural Studies
- Digital Art
- Courses in the creation of visual materials (includes photography, art, drawing, etc.)
Existing Infrastructure in the school or college in which the program happens to reside such as Education, Communication, Computing and others:

LIS Programs and Home Units: The other programs within the home unit can be valuable resources for the LIS program. Often, residing within the same home unit enables easy interaction. This can promote interdisciplinary learning with a minimum of extra effort. Depending on the home unit the LIS program resides in, different programs and course topics may apply.

Dual Degree Programs: These programs allow LIS students to get a degree in another discipline concurrently with the LIS degree. Very often a list is given of approved programs (please refer to section 2, existing infrastructure outside of the LIS programs), but some schools do allow a combination with any master’s program offered by their university. The purpose of the dual degree is to use the existing LIS infrastructure while adding another program. This ensures that the student will have a broader knowledge base in a specialization than may be provided within just one program.

University Services Outside Departments: This refers to parts of the university that are not directly related to the departmental programs, such as library services or technical support. For example, the University of Texas Libraries at Austin Digitization Center uses students in their digitization projects. Such services can be resources for information and learning, as well as providing access to professionals currently working in the field.

Strategies for incorporating VR into LIS curriculum at the graduate level

The strategies located in this section are often best used in conjunction with one another. Some are necessary for bolstering the existing infrastructure to incorporate more VR into the existing curriculum, but others are more useful once there is a certain amount of infrastructure in place.

The strategies for creation of a Visual Resource Management course, even if not taken in their entirety, can be used as a basis for implementing other strategies. For example, even if the entire course is not used, specific lectures may be lifted out of the course and inserted into other courses to augment the existing curricula.

Workshops:
The use of workshops to incorporate more VR content into a curriculum may come in different forms. This may be a program offered to augment degree programs on specifics topics and may be given for credit. Workshops are also frequently offered by professional organizations. This includes mini-workshops or seminars as well as pre-conference and conference workshops. Workshops are a good strategy for schools that have little or no existing infrastructure, but are no less useful to schools which have strong infrastructures.
Organizations which offer/ have recently offered relevant workshops:
Some of the recent workshops offered by each organization are listed here, to give an idea of the kinds of topics which are covered.

AAM: American Association of Museums
· Professional Education Seminar
· Current Issues in Museum Management
· 48th Seminar for Historical Administration
· Learning in Museums (American Association of Museums)

SAA: Society of American Archivists is a group which regularly offers workshops in a variety of related topics; in the past they have offered:
· Digitization and Digital Preservation
· Building Digital Collections
· Encoded Archival Description
· Introduction to Archival Descriptions
· Legal Aspects of Photography Rights
· Becoming a Film Friendly Archivist
· Preservation of 20th Century Visual Materials (Society of American Archivists)

SLA: Special Libraries Association
· Building Content Management Strategy
· Moving to Knowledge Services
   · Financial Management of Information Projects (Special Libraries Association, 2008)

MCN: Museum Computer Network offers yearly conferences which include workshops on varying topics:
· Preserving Knowledge
· Cataloging Cultural Objects
· Managing a Digitization Project
· Content Management Strategies and Systems
· Multimedia and Streaming Technologies
· Digital Capture and Database Presentation
· Podcasting
· New Media, New Ethics?
· Digitization
· Developing Intellectual Property Politics for Museums
   · Digitization’s New Frontier: Motion and Sound (Museum Computer Network, 2008)

VRA: Visual Resources Association- some past workshops include:
· Educating the Educators: Teaching Faculty to Teach with Digital Images.
· Education Committee
· Museum Visual Resources
· 35mm Slide Collections: Retention Criteria, Preservation Issues, Donation Ideas
· “Is Anyone Using?” A Cavalcade of Interoperability Strategies. Sponsored by the DIAG (Digital Initiatives Advisory Group) and complimentary to the session “From Fair Use to Fair Trading: Creating a Digital Image Matchmaking Commons”
· A Burgeoning Beyond Restraint: Delivering Video, Audio, and Image Data to the Classroom
· Image Indexing: Current and Emerging Research of Access to Visual Materials
· International Adoption and Use of VRA Core 4.0 and CCO
· Getting Past No: Assessing Copyright Risk.
· Image Metadata Crash Course
· Are We Speaking the Same Language? Communication Strategies for the Visual Resources Professional (Visual Resources Association, 2008).

**Summer Institutes:**

Summer institutes are similar to workshops in that they focus on a specific topic and provide specialized instruction. They tend to be longer and more in-depth than workshops and can provide valuable professional development opportunities.

The Summer Educational Institute (SEI) is an annual program directed by ARLIS/NA and VRA. Some topics that have been covered are:
· Visual resources programs sustainability- conversion from analog to digital
· VR and image collection management (upcoming 2008) (ARLIS/NA and VRA, 2008)

**Continuing Education Programs (CEP):**

These are programs that are offered in specific areas of study. They are usually non-degree programs, though they can offer certificates, as in Certificate of Advanced Study programs (CAS). These are best offered by programs with fairly well developed infrastructure.

Open or create-your-own CAS: This is an option where individual students may put together relevant courses to create a specialty that may not be offered otherwise. Established CAS or CEP programs that are relevant for VR include:

Digital Information Management. Courses relevant for VR may include:
· Introduction to Digital Collections
· Introduction to Applied Technology
· Preservation of Digital Collections
· Advanced Digital Collections
· Management of Digital Environments

Digital Libraries

Archives (usually “new topics” in archive studies): The courses offered are usually tailored to a specific topics such preservation, or rare books, but do include some archives and records management courses.
Public Library Administration. Courses for that may be relevant for VR:
· Principles of Public Library Organization & Management
· Seminar in Legal Issues & the Regulatory/Governance Environment of the public library
· Human Resources Administration in the Public Library
· Financial Management of Public Libraries
· Public Library Facilities, Automation Systems and Telecommunications

Library Management

Self designed concentrations by students:

Tracks and concentrations within the LIS programs are very common. Some schools offer, or could offer, students the chance to create their own concentrations. Therefore, students interested in VR could specialize without the school having to add an entire track to the curriculum. A self-designed specialization allows these students to acquire specialized skills and knowledge.

Allowing students to create their own tracks requires the program to define a scope that is unique to the department. While it is important to allow students to create a concentration that suits their interest, they should not be allowed to choose topics that cannot be covered adequately using the institution’s resources. The program should clearly define what the concentration entails. In addition it should suggest a list of VR appropriate areas/topics that is based on availability of courses, the available faculty expertise, and the institutional resources.

The track should be modeled after the existing tracks/concentration in the program with additional room for study in other areas. Crucial to this strategy is inclusion of the relevant courses from within the LIS curriculum and the requirement of two internships within specific environments.

VR Tracks, concentrations and specializations instituted within the program:

Creating a VR Track: The creation of a Visual Resources track or concentration should include at least one required VR course, one or more internships, and other relevant courses from the overall curriculum that fulfill the VR competencies. The VR track would allow students to specialize based on the five VR environments in which most VR jobs exist, as well as to have specialized knowledge of VR as a discipline.

Integrating VR into Existing Tracks: LIS schools typically have tracks/concentrations and recommended courses geared to the environments (i.e.: archives, special libraries, general academic libraries) to prepare students to work in these settings. This will provide the infrastructure to develop a VR focus within the curriculum in terms of allowing specialized VR skill sets to work within that professional environment. It will be necessary for the students interested in VR to understand in what environments VR is
practiced, and the positions available in these environments. They can then take advantage of the various tracks that are already being offered by the LIS programs.

For example, the archives track prepares students to be archivists, however adding an emphasis in VR would offer students the opportunity to fine tune their interest in archives and become a visual materials archivist and give them specialized skills for different professional environments. This may be accomplished through VR specific assignments, projects, field trips etc. The faculty in consultation with senior VR professionals in the field can design and incorporate meaningful VR components into their courses.

**Cross-listing courses:**

This practice would require creating or adopting courses in conjunction with other programs/departments in order to benefit both programs. This may also include team teaching and other cooperative strategies. The benefit of this strategy is to add new topics into the existing LIS program, while still providing the contextual knowledge that connects the topics to LIS. The courses that would be most relevant are listed within the program areas in section 2 (infrastructure outside LIS programs).

**Dual degrees:**

This strategy entails the creation of dual degree programs with specific disciplines which are relevant to VR or the creation of the open dual degree program in which students may choose any existing university program with which to ally their LIS degree. This strategy works best for schools which have existing course(s) in VR and has a focus in at least one of the VR environments. The students may even be able to specialize in a VR track/concentration in the LIS program while pursuing the second degree in a specific area covered in the VR environments.

Open MA/MSIS: This entitles the students to get their dual degree with the LIS school and any one of the other MA degree programs offered at the university. Also called Generic Dual Degree, Cooperative Masters Program, or Double Degrees, these types of programs open the university up to the students to specialize in different areas that are not widely offered to them and takes advantage of existing infrastructures without a great deal of effort on behalf of the university.

**Consortia and Cooperative Education Programs:**

This involves taking advantage of cooperative education programs by utilizing appropriate courses within the university system by listing the courses, offering credits, and allowing transfer of credits (such as within the California system or the SUNY system). This may also include collaborative inter-university consortia like the Regional Studies Program.
**Distance education programs:**

Distance education programs allow students to take courses that are not offered by their own university and may not even exist in the vicinity. These programs are usually completed online, via telephone/teleconferencing, using social software, podcasting, etc., and may still accrue credit towards a degree. One example is the Web-Based Information Science Consortium (Institute of Museum and Library Services, 2007) [http://www.wiseeducation.org/home_p-home.aspx](http://www.wiseeducation.org/home_p-home.aspx) which provides inter-institutional education.

**Internships and apprenticeships:**

Regardless of the method of incorporating VR into the curriculum, it will be necessary to provide internship opportunities for the students. This strategy does not require a strong infrastructure within the program, because the students will acquire their knowledge through experience in the VR environments.

The students could be required to take internships that reside within the VR environments and will identify with specific jobs that are included within the environments. It is very important for internships to occur at approved sites with mentoring by VR professionals together with faculty mentor site visits. This will ensure that both the educational and experiential aspects are strong.

A positive internship experience can provide students with a great deal of knowledge about their chosen fields.

**Introducing VR Course Offerings:**

VR related courses and curricula can be introduced by the following means:

- Create a Visual Resources Management Course (as either a core or elective in the permanent curriculum)
- Using the generic “topics in” courses on specific VR issues. Current topics in----
  - “experimental courses”
- A foundational course on visual resource management or a capstone course that covers VR specifics topics and tools that are not covered elsewhere in the program
- Independent studies
- Short courses (1 or 2 credits)

**Looking outside of LIS schools:**

There are several programs or courses in other universities and schools that may be useful for VR. For example, film and media studies may wish to link with the new VR courses within the library school (including job analysis of why these new programs would be attractive to their students: how to market the program liaisons with programs such as the Film and Media studies program and image technology programs in other institutes).
Additionally, community involvement through internships and workshops can provide a great deal of information and experience that are unavailable elsewhere.

Faculty resources:

Each strategy requires the participation and cooperation of faculty members. To this end supporting the faculty is a key factor for successful integration of VR. Some resources that the faculty can rely on are:
The instructional modules developed as part of this project are intended to aid in instruction.
Professionals in the field may wish to participate by giving guest lectures or even teaching entire courses.
Additionally, tapping into faculty from other units, for example art, museology, or management, can provide additional expertise in a variety of contexts.

Specific Actions for Implementing Strategies

This section is intended to raise issues and provide suggestions for methods of incorporating VR into existing curricula in a variety of circumstances.

Integrating VR into individual course curricula:
· Evaluate current courses offered
· Choose desired method(s)
   Adding VR topics to existing syllabi
   Co-teaching courses
   Have faculty from other disciplines teach LIS courses
   Provide guest speakers who are experts in the field

Addition of a VR course/specialization to curriculum:

· Add course to department catalog
· Offer course regularly
· Training/ updating faculty, providing tools for implementation (the instructional modules developed will help)

Addition of VR track to curriculum:
· Creation of a core course in visual resources management
· Evaluate the current curriculum hi-lighting existing courses or areas that are already strong in VR (for suggestions of VR-related courses see section I. B).
· Use the VR Core Competencies as a check list to see which competencies have already been covered and which still need to be covered
· Creation of Visual Resources Management course to provide many of the VR competencies that may be missing from the current curriculum
· Provide more courses (or allow electives outside the LIS program) to round out track/specialization

Addition/creation of dual degree programs:
· Add VR relevant disciplines to dual degree program (please see list of *Existing Infrastructure in other degree programs*, pages 4-7 of this document.)
  Identify key courses within both the new program as well as the LIS program
  Jointly create a curricular model for students (either a course list or list of requirements) that will enable students to meet requirements of both degree programs
  Allow students to create their own dual degree programs

Providing opportunities/encouragement for students to pursue VR within the existing infrastructures:
  This section is meant to foster VR education in a situation where additional classes or changes to current curricula are not feasible.
  · Use existing courses from other university programs
  · Offer credit for courses taken from within the same Home Unit
  · Offer credit for courses taken from other disciplines
  · Provide a list of pre-approved courses for the VR area from other disciplines
  · Allow students to choose their own electives. Many degree programs, tracks, or dual degree programs include opportunities for students to choose their own electives: schools may use the lists provided here in conjunction with their own curricula and the students’ interests to steer them towards courses that fulfill VR competencies

Partnerships with other departments or programs:
· Cross-listing courses
· Co-teaching
· Dual-degree programs
· Consortia credits and distance learning

This document provides a number of approaches, strategies and other ideas for integrating VR into the LIS curriculum. However each individual institution has to examine its own strengths and needs and choose the path that is appropriate for that situation. As mentioned previously establishing and leveraging relationships with other units in the college and university will be critical to the success of this endeavor.
Reference List


