

# University of Utah Visual, Information and Technology Literacy Task Force Report and Recommendations

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## **Executive Summary**

Recognizing the critical nature of visual, information, and technology literacy to the foundation of a 21<sup>st</sup> century education, a VITL Task Force has been convened to explore and expand initiatives at the University of Utah that promote competencies in these literacies. The VITL Task Force worked during the 2008-09 academic year to define these literacies, make connections between these definitions and essential learning outcomes endorsed by the American Association of Colleges and Universities and adopted by the University, and provide findings and a foundation for a strategic framework to enhance and embed VITL in the educational mission of the University.

Based on the Task Force deliberations and findings, the group formulated the following recommendations which address specific immediate actions that can be implemented in the 2009-2010 academic year, and priority initiatives requiring endorsement at the University level to begin:

### **Immediate Actions:**

1. Develop and implement a pilot project for teaching VITL in first year and upper division courses. This project will involve collaboration between the library, the University Writing Program, Undergraduate Studies, and Educational Psychology.
2. Create a seed grant opportunity that will encourage faculty to develop or enhance VITL in courses.
3. Formulate and execute multiple vehicles for sharing best practices in VITL teaching through faculty outreach and development.

### **Priority Initiatives:**

4. Address VITL technological and infrastructure needs through strengthened campus coordination.
5. Assess VITL learning at the department and campus wide levels.
6. Create student awards and incentives for exemplary demonstration of VITL competencies.
7. Integrate VITL in the training of K-12 educators.

These recommendations are outlined and a plan for implementation is defined in the report.

## **Background**

In his inaugural address, University of Utah President Michael Young noted that in order to “prepare our students to succeed in the 21<sup>st</sup> century” we must provide them with technological literacy and an interdisciplinary perspective. “The future,” he further argued, is “essentially and inescapably interdisciplinary.”<sup>1</sup> Other prominent thinkers share Young’s view: in a 2006 *Time Magazine* article titled “How to Bring Our Schools Out of the 20<sup>th</sup> Century,” Pulitzer Prize winning journalist and best-selling author of *The World is Flat* was quoted as saying that “It is interdisciplinary combinations — design and technology, mathematics and art — that produced YouTube and Google.”<sup>2</sup>

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<sup>1</sup> Young, M. (2005). Inaugural Address by President Michael Young. <http://www.unews.utah.edu/p/?r=022106-14>.

<sup>2</sup> Wallis, C., Steptoe, S., & Miranda, C. A. (2006). How to Bring Our Schools Out of the 20th Century. (Cover story). *Time*, 168(25), 50-56.

To meet the educational mission of the University, a campus Visual, Information and Technology Literacy Task Force was charged by Associate Vice President for Interdisciplinary Studies Robert Newman and University Librarian Joyce Ogburn to make recommendations in a plan that lays out strategic directions, expectations, and desired outcomes that will increase the effectiveness and scope of new literacy initiatives for students. This interdisciplinary plan is to be centered in the libraries with a goal to give all students opportunities to develop VITL capabilities across the curriculum.

The Task Force considered the following questions:

- What skills do students need to survive and thrive in the 21<sup>st</sup> century?
- What implications does this have for our current education programs?
- What kind of training do faculty need to teach effectively in the digital world?
- What structures, coordination, resources, incentives, and awards are needed to advance a VITL initiative?

### ***Charge to the VITL Task Force***

The Task Force members met with Robert Newman and Joyce Ogburn in July of 2008 and were given the following charge:

*In this age of technological abundance, information overload, and wealth of visual imagery, it is essential that students gain skills in critical thinking and thoughtful engagement with knowledge that will prepare them to be “smart for life.” To promote this goal at the University of Utah, the University Librarian and the Associate Vice President for Interdisciplinary Studies appointed a Task Force to explore and expand initiatives at the U that provide courses, programs and services that enhance student competencies in visual, information and technology literacy (VITL).*

*The first stage of the work will be to identify and support courses that represent new models and potential pilot projects that can be replicated. By May 2009 the VITL Task Force will prepare recommendations regarding how to sustain and increase successful literacy programs and initiatives at the university. The recommendations should create a plan or a framework that lays out strategic directions, expectations and desired outcomes that will increase the effectiveness and scope of literacy initiatives. Components may include:*

- *Awards and incentives for innovative approaches by faculty and services that integrate VITL into student learning*
- *Incentives for student participation and learning such as a certificate or monetary awards*
- *Venues to highlight and share information about successful courses and programs*
- *Provision of a diversity of experiences, online and in person, that present effective learning opportunities*
- *Recommendations for standards, templates, modules, and tools*
- *Encouragement of partnerships among disciplines and departments*

*Membership will draw from faculty, staff and students across the university and will consult broadly with other relevant campus committees and groups.*

## ***Outcomes of the VITL Task Force***

The Task Force defined visual, information, and technology literacies and endorsed these abilities as critical learning outcomes of a University of Utah education. Planning for the VITL initiative positions the libraries as key interdisciplinary partners with colleges, departments and programs in supporting faculty and expanding (or strengthening) student learning in these areas. Task Force discussions along with a study of relevant literature identified challenges, barriers and opportunities facing educators in implementing a campus wide VITL initiative. Task Force review of existing course offerings identified numerous courses that have one or more VITL components. The recommendations of this report attempt to address these obstacles and opportunities.

(See Appendix D: Existing Visual Literacy Courses at the University of Utah).

### ***VITL Definitions and Connection to the Curriculum***

*Visual literacy* may be defined as the ability to recognize and understand ideas conveyed through visible actions or images, as well as to be able to convey ideas or messages through imagery.<sup>3</sup>

*Information Literacy* is defined as “a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information.”<sup>4</sup>

*Technology literacy* is defined as the ability to responsibly use appropriate technology to communicate, solve problems, and access, manage, integrate, evaluate, and create information to improve learning in all subject areas and to acquire lifelong knowledge and skills in the 21st century.<sup>5</sup>

The goals of the VITL effort relate to the University of Utah Undergraduate Council’s recent endorsement of “Essential Learning Outcomes” for the General Education program. These outcomes developed by the American Association of Colleges and Universities Liberal Education and America’s Promise (LEAP)<sup>6</sup> guide learning in preparation for 21<sup>st</sup> century life and work and provide a framework to which many of the VITL assignments and learning outcomes may be mapped.

(See Appendix A: The Essential Learning Outcomes from AAC & U LEAP).

(See Appendix B: VITL Framework for Essential Learning Outcomes).

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<sup>3</sup> Aanstoos, J. (2003). Visual Literacy: An Overview. *Applied Imagery Pattern Recognition Workshop, 2003. Proceedings. 32nd.*

<sup>4</sup> American Library Association. (1989). *Presidential Committee on Information Literacy. Final Report.* Chicago: American Library Association. <http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm#f1>

<sup>5</sup> ACRL. (2000). Information Literacy Competency Standards for Higher Education. <http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm#f1>.

<sup>6</sup> Association of American Colleges & Universities (AAC&U). (2007). *College Learning for the New Global Century.* [http://www.aacu.org/leap/documents/GlobalCentury\\_final.pdf](http://www.aacu.org/leap/documents/GlobalCentury_final.pdf)

\*\*Note AAC&U’s LEAP is not the same as the University of Utah Learning, Engagement, Achievement and Progress (LEAP) program

### ***The Role of Libraries***

Libraries have been in the business of teaching information literacy skills for decades – helping students learn how to be effective in seeking, accessing, analyzing, and applying knowledge resources in their academic work. More recently the libraries have been expanding what they teach students as technology has developed, and the world has become more and more visual through the web, video, television, mobile devices, and other kinds of media.

Other schools have or are developing literacy programs as shown by the work at Duke University, University of California, Berkeley, Cornell University, and Brown University in collaboration with Maricopa Community College to name only a few. At Duke University, visual studies is identified as a key to general education, is highly interdisciplinary, involves both undergraduate and graduate students and reaches across humanities, sciences, social sciences, and engineering. The collaboration between Brown University and Maricopa Community College, funded by a National Science Foundation grant, resulted in the development of online modules to instruct students in the effective use of software. The University of California, Berkeley, with funding from the Mellon Foundation, instituted summer workshops for faculty training, provided innovation grants, and offered release time to support exploration of new approaches for research-based learning. The program development at Cornell University is supported via Faculty Innovation in Teaching grants.

The University of Utah VITL initiative will strive to integrate these three literacies into the curriculum. This plan recommends ways for the libraries to work with faculty to embed learning experiences related to doing effective research, applying technologies that are important in the disciplines, and using a wide range of resources and formats.

### ***Challenges, Barriers and Opportunities***

There are factors that support and hamper an extensive VITL plan. Our “digital native” students are coming to the University with technology skills and an aptitude for using technology and media in their academic work. There is growing recognition among faculty and administrators of the value VITL learning in preparation for life and work in the 21<sup>st</sup> century. Integration of VITL teaching and the technology capabilities of educators are uneven across campus. Existing faculty teaching and research workloads compete for time needed to re-envision the curriculum with a VITL focus and to develop new skills. The demand for technology-enhanced classrooms exceeds available resources and information about teaching facilities and software tools is not centrally located. The following recommendations are intended to build on existing strengths and address challenges and barriers to make VITL a distinctive experience for students at the University of Utah.

(See Appendix C: VITL Implementation - Challenges, Barriers and Opportunities).

### ***Task Force Recommendations***

#### ***Recommendation 1 – Reach all students; start by developing and implementing a VITL pilot project for first year and transfer students.***

University of Utah first-year and transfer students will have common learning experiences to establish a foundation in visual, information and technology literacies to support their further

academic work and prepare them for lifelong learning. The goal of reaching all students will start with a smaller scale pilot project in academic year 2009-10.

Visual, information, and technology literacy encompasses numerous forms of technology and media and varied skills such as locating, evaluating, selecting and using information in many formats. This recommendation proposes that faculty and librarians partner to identify places in the curriculum where added attention may be paid to such literacies in a discipline-appropriate way, and in a way that broadens the experience and abilities of our students.

Through this VITL effort all first year students will have a VITL experience as a foundation to be built upon subsequently with more VITL learning in students' major areas of study. Ideally every University of Utah student will have an opportunity to learn and apply VITL capabilities in their academic work.

This plan does not envision a single model for such an initiative, because colleges and disciplines will naturally have different ways of approaching it, and will have varying expectations of the competencies their students need. It does envision a variety of teaching modes to give students opportunities to learn new skills in a variety of ways. Some examples of different models for this kind of instruction and learning include:

- a traditional three credit course taught by an academic department coupled with a one credit course taught by library faculty;
- course integrated library instruction;
- online tutorials housed on the library website or in a Course Management System (Blackboard); and
- workshops, consultations and labs taught by library faculty and expert staff.

For the 2009-2010 academic year the Task Force proposes a two part pilot project. A fall pilot will target first-year initiatives, partnering with librarians and instructors in the University Writing Program and Undergraduate Studies (LEAP) to provide training and support for assignments integrating technology, media and other resources. A spring pilot will target upper-level initiatives, partnering with librarians and instructors in the University Writing Program and college/discipline research methods courses.

The fall pilot project will reach approximately 600 students in 25 classes through teaching and partnership of 15 librarians and 20 instructors. We anticipate that a successful pilot project will enhance our efforts to obtain both intramural and extramural funding to expand our efforts. Findings of the pilot study will inform about scalability, needed resources, and measurable learning outcomes to guide future planning for expanding VITL teaching and learning.

(See Appendix E: Additional Information about Pilot Projects).

Responsible: Libraries and designated teaching faculty.

***Recommendation 2 – Offer a VITL Curriculum Integration Grant Program for faculty.***

In order to foster the promotion of novel methods and techniques for integrating new literacies in the classroom, the Marriott Library and the Office of Interdisciplinary Studies will identify funding to establish a seed grant program for the development of VITL intensive courses.

Funding will be available to faculty on a competitive basis with applications available in fall 2009. This program will raise the profile of the VITL initiative among faculty, as well as provide a laboratory for testing and disseminating best practices in teaching new literacies. A VITL grants committee will be appointed to review proposals.

(See Appendix F: Proposed RFP for VITL Curriculum Integration Grant Program).

Responsible: Marriott Library, Office of Interdisciplinary Studies and VITL Grants Committee.

### ***Recommendation 3 – Increase faculty outreach and development.***

Outreach and faculty development efforts will help inform the university community of the importance of VITL learning and help faculty in their creation of VITL learning opportunities for students. The following are recommended:

- A campus-wide VITL forum in 2009-10 featuring national and local speakers to launch the VITL initiative and increase awareness and understanding.
- An annual VITL Curriculum Fair to showcase faculty curriculum development efforts and successful student projects.
- A website with online tutorials, toolkits, and related materials and links developed and maintained by the library to facilitate access to supporting resources.
- An information forum and consultations related to VITL RFP process hosted by the library.
- Faculty support and training as an important component of library training programs.
- Collaboration with campus units that support faculty teaching, including the Technology Assisted Curriculum Center (TACC) and the Center for Teaching and Learning Excellence (CTLE).

Responsible: VITL Task Force and University libraries.

### ***Recommendation 4 – Address VITL technological and infrastructure needs through strengthened campus coordination.***

The EDUCAUSE community recently identified their top five challenges in teaching and learning with technology, with number one being “creating learning environments that promote active learning, critical thinking, collaborative learning, and knowledge creation.”<sup>7</sup> The teaching faculty at the University of Utah face numerous barriers and challenges as they strive to utilize campus resources most effectively and efficiently. The Task Force recommends the creation of a committee to address improved communication, infrastructure support, and resource balancing. This broad coalition of coordinated support will help ensure that resources needed for VITL teaching and learning are widely available across campus. Specific recommendations include the following:

- Develop an infrastructure that provides upkeep for facilities, hardware, and software in the 180+ technology-enhanced general purpose classrooms.
- Create a central website for communicating details and specifications about all computing labs and classrooms across campus.

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<sup>7</sup> Educause. (2009). *The EDUCAUSE Top Teaching and Learning Challenges 2009*.

- Make classrooms and labs more widely available to courses across the curriculum through improved scheduling as well as balancing the demand between semester-long courses and course-related lab sessions.

Membership should comprise library and teaching faculty and staff in Campus Facilities and OIT.

(See Appendix G: Campus Infrastructure Issues).

Responsible: Appropriate campus leadership and personnel.

***Recommendation 5 – Assess VITL learning at the department and university levels.***

The Task Force suggests that a two-level assessment model be used to assess the impact of VITL on teaching and learning. The two levels consist of departmental and university assessment which would provide a comprehensive picture of the VITL activities campus wide.

1. Departmental level assessment: the Task Force recommends that department curriculum committees include provisions in curricular guidelines focusing on integrating VITL in courses as well as related assessment tools to gauge the outcomes of VITL integration. Specifically, the assessment should look at:

- a. The level of VITL application in course content
- b. Student expectation and learning outcomes related to VITL
- c. Faculty expectation and teaching outcomes related to VITL
- d. The magnitude and impact of VITL at departmental level integration

2. Campus level assessment: the Task Force recommends that an assessment infrastructure at university be created to ensure the successful implementation of VITL at the departmental level. Specifically, the university assessment pertaining to VITL implementation should include:

- a. An assessment on the operational capability of technology resources (i.e. coordination and repurposing of various technology resources including classrooms, software licensing, etc.)
- b. Students' VITL learning outcomes in connection to UU Essential Learning Outcomes
- c. Undergraduate capstone projects that capture the use of VITL in various discipline areas
- d. Campus wide application of VITL by faculty members through interdisciplinary collaboration and research.

Responsible: University departments, libraries, and Undergraduate Council.

***Recommendation 6 – Create student awards and incentives for VITL work.***

A new Honors Thesis Award co-sponsored by the Honors College and the J. Willard Marriott Library has been established to recognize outstanding academic work in completion of Honors theses. The Task Force recommends the creation of another undergraduate research award for students who demonstrate skill and creativity in the application of visual, information and technology literacies in their academic work. Programs at other universities including the University of Oregon, Emory University, UC Berkeley, and the University of Washington could serve as models for such a new award.

As the VITL program grows, a certificate program could be developed to offer a credential documenting VITL work and accomplishments. In such a program, students would be required to take VITL-designated classes (amounting to between 15-18 credits) in order to earn a VITL certificate upon graduation.

Responsible: University libraries and VITL Task Force.

***Recommendation 7 - Integrate VITL with K-12 Teacher Education.***

The Task Force recommends further integration of VITL with K-12 teacher education. Specific emphasis will be on integrating VITL into courses in teacher education in the College of Education. Undergraduate students in education major will:

- utilize different educational technologies to design and develop lesson plans;
- create learning and instructional activities that highlight the use of VITL in teaching and learning; and
- develop assessment to gauge the effect of VITL on students' cognitive information process, knowledge acquisition and transfer, and the abilities to apply knowledge in meaningful ways.

Responsible: College of Education Curriculum Committee.

***VITL Plan Implementation***

Recommendation 1 - Reach all students:	Pilot Project planning is already underway
Recommendation 2 - Offer seed grants:	Could be started as soon as funding and staffing and VITL Advisory Committee are identified
Recommendation 3 - Outreach and development:	Identify coordinator to work with VITL Task Force
Recommendation 4 - Infrastructure needs:	Needs to be a campus priority
Recommendation 5 – Assessment:	Identify administrative responsibility
Recommendation 6 - Student awards:	Future initiative
Recommendation 7 - K-12 Teacher Education:	Refer to College of Education

(See Appendix H: Visual, Information and Technology Literacy Selected Sources)

## Appendix A: Essential Learning Outcomes from AAC & U LEAP<sup>8</sup>

# *The Essential Learning Outcomes*



Beginning in school, and continuing at successively higher levels across their college studies, students should prepare for twenty-first-century challenges by gaining:

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### ★ Knowledge of Human Cultures and the Physical and Natural World

- Through study in the sciences and mathematics, social sciences, humanities, histories, languages, and the arts

*Focused by engagement with big questions, both contemporary and enduring*

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### ★ Intellectual and Practical Skills, including

- Inquiry and analysis
- Critical and creative thinking
- Written and oral communication
- Quantitative literacy
- Information literacy
- Teamwork and problem solving

*Practiced extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance*

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### ★ Personal and Social Responsibility, including

- Civic knowledge and engagement—local and global
- Intercultural knowledge and competence
- Ethical reasoning and action
- Foundations and skills for lifelong learning

*Anchored through active involvement with diverse communities and real-world challenges*

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### ★ Integrative Learning, including

- Synthesis and advanced accomplishment across general and specialized studies

*Demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems*

**Note:** This listing was developed through a multiyear dialogue with hundreds of colleges and universities about needed goals for student learning; analysis of a long series of recommendations and reports from the business community; and analysis of the accreditation requirements for engineering, business, nursing, and teacher education. The findings are documented in previous publications of the Association of American Colleges and Universities: *Greater Expectations: A New Vision for Learning as a Nation Goes to College* (2002), *Taking Responsibility for the Quality of the Baccalaureate Degree* (2004), and *Liberal Education Outcomes: A Preliminary Report on Achievement in College* (2005). *Liberal Education Outcomes* is available online at [www.aacu.org/leap](http://www.aacu.org/leap).

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<sup>8</sup> Association of American Colleges & Universities (AAC&U). (2007). *College Learning for the New Global Century*. [http://www.aacu.org/leap/documents/GlobalCentury\\_final.pdf](http://www.aacu.org/leap/documents/GlobalCentury_final.pdf)

## Appendix B: VITL Framework for Essential Learning Outcomes Using the New “Literacy Domains”

UU Essential Learning Outcomes <sup>9</sup>	Visual Literacy <sup>10</sup>	Information Literacy <sup>11</sup>	Technology Literacy <sup>12</sup>
<ul style="list-style-type: none"> <li>Knowledge of human cultures and the physical and natural world focused by engagement with big questions, both contemporary and enduring</li> </ul>	<ul style="list-style-type: none"> <li>Find visuals that characterize the question</li> <li>Identify basic elements of visual design, technique, and media</li> <li>Demonstrate knowledge of visuals produced and/or displayed through electronic media</li> </ul>	<ul style="list-style-type: none"> <li>Develop the research question or topic</li> <li>Determine the information need (analyze requirements of assignment)</li> <li>Determine where to look</li> </ul>	<ul style="list-style-type: none"> <li>Determine what tools to use to analyze the information</li> <li>Select and effectively utilize technological tools to define, articulate, and solve complex problems</li> </ul>
<ul style="list-style-type: none"> <li>Intellectual and practical skills, performed extensively, across the curriculum, in the context of progressively more challenging problems, projects, and standards for performance</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate, critique, and consume visual information</li> <li>Repurpose information within visual formats to represent research in visually effective methods</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate information and sources critically</li> <li>Organize and manage retrieved information</li> <li>Synthesize information</li> </ul>	<ul style="list-style-type: none"> <li>Build upon progressively more complex technology concepts and operations knowledge</li> <li>Adapt to evolving technologies and manage limitations of technologies</li> </ul>
<ul style="list-style-type: none"> <li>Personal and social responsibility, anchored through active involvement with diverse communities and real-world challenges</li> </ul>	<ul style="list-style-type: none"> <li>Communicate and collaborate using visuals</li> </ul>	<ul style="list-style-type: none"> <li>Communicate/present information to audience</li> <li>Participate effectively in groups to pursue and generate information</li> <li>Practice ethical behavior in regard to information use and information technology</li> </ul>	<ul style="list-style-type: none"> <li>Effectively collaborate and communicate using acquired technological knowledge and skills sets</li> </ul>
<ul style="list-style-type: none"> <li>Integrative learning demonstrated through the application of knowledge, skills, and responsibilities to new settings and complex problems</li> </ul>	<ul style="list-style-type: none"> <li>Apply knowledge to be innovative visual thinkers and successful problem solvers</li> <li>Demonstrate visual awareness</li> </ul>	<ul style="list-style-type: none"> <li>Integrate knowledge learned across disciplines</li> <li>Share knowledge via publications, speaking, videos, other media</li> <li>Recognize the economic, social, &amp; legal issues when using information</li> </ul>	<ul style="list-style-type: none"> <li>Apply technologies to solve new problems, make decisions and manage complexity</li> <li>Understand the societal impact of information and technology</li> </ul>

<sup>9</sup> New Media Consortium. (2005). *A Global Imperative: The Report of the 21st Century Summit*.  
[http://archive.nmc.org/pdf/Global\\_Imperative.pdf](http://archive.nmc.org/pdf/Global_Imperative.pdf).

<sup>10</sup> Bleed, R. (2005). *Visual Literacy in Higher Education. ELI White Paper*:  
<http://net.educause.edu/ir/library/pdf/ELI4001.pdf>.

<sup>11</sup> ACRL. (2000). *Information Literacy Competency Standards for Higher Education*.  
<http://www.ala.org/ala/mgrps/divs/acrl/standards/informationliteracycompetency.cfm#f1>.

<sup>12</sup> ISTE. (2008) *ISTE National Educational Technology Standards (NETS-T) and Performance Indicators for Teachers*. [http://www.iste.org/Content/NavigationMenu/NETS/ForTeachers/2008Standards/NETS\\_T\\_Standards\\_Final.pdf](http://www.iste.org/Content/NavigationMenu/NETS/ForTeachers/2008Standards/NETS_T_Standards_Final.pdf).

## Appendix C: Challenges, Barriers and Opportunities for Faculty<sup>13</sup>

In order to achieve an integration of the VITL recommendations, there are opportunities that we should plan to take advantage of as well as several challenges and barriers to be overcome.

Challenges	Barriers	Opportunities
Faculty time	<ul style="list-style-type: none"> <li>• Busy schedules</li> <li>• Teaching load</li> <li>• Research load</li> <li>• Work-life balance</li> </ul>	<ul style="list-style-type: none"> <li>• Sabbatical</li> <li>• Professional development time</li> <li>• Teaching grants</li> </ul>
Faculty knowledge	<ul style="list-style-type: none"> <li>• Senior faculty are less tech savvy</li> <li>• Poor access to training</li> </ul>	<ul style="list-style-type: none"> <li>• Willing to learn and keep current</li> <li>• Junior faculty are more tech savvy</li> <li>• Access to training</li> </ul>
Integrating VITL into the current curriculum	Rethink, relearn	<ul style="list-style-type: none"> <li>• Rethink, relearn</li> </ul>
Intellectual Property New laws or policies that make it easier to use and share works while preserving attribution and rights are needed for visual and aural media.	Narrow definition of Fair Use	Creative Commons A licensing model that provides a way for creators to allow their work to be shared.
Tools for creating multimedia are widely available; image, sound, video editing tools; desktop publishing and web design tools; hardware to print, record, burn, copy and distribute created media; the Internet.	Some tools are challenging; not always clear how the tools can be used or integrated into current curriculum; image, video and audio processing software are not seen as part of the basic tool kit.	<ul style="list-style-type: none"> <li>• Software developers are making these tools easier to use:</li> <li>• more accessible</li> <li>• more widely used</li> <li>• online tutorials help</li> <li>• learn from colleagues</li> </ul>
Standards for various media formats or in media tools for multimedia are not in place.	Some tools and software programs are difficult to learn; need for server space.	Tools, software and hardware are becoming easier to use.
Policy changes <ul style="list-style-type: none"> <li>• Teacher training and certification</li> <li>• Copyright/Fair Use</li> <li>• Software and hardware pricing</li> </ul>	<ul style="list-style-type: none"> <li>• Retention of status quo</li> <li>• Need time to develop new training for teachers</li> <li>• Creator concern with copyright and their profits</li> <li>• Cost to develop software</li> <li>• Cost to produce hardware</li> <li>• Cost to market tools</li> </ul>	<ul style="list-style-type: none"> <li>• Incorporate VITL skills in teacher training programs</li> <li>• Creative Commons and copyright revisions</li> <li>• Reasonable pricing schemes</li> </ul>
Resistance to change	<ul style="list-style-type: none"> <li>• VITL is not well understood.</li> <li>• Insufficient research to demonstrate its value</li> <li>• No clear incentive to change</li> <li>• Current tenure process does not reward this kind of work.</li> <li>• Institutional and/or faculty resistance to change</li> </ul>	<ul style="list-style-type: none"> <li>• Administrative support at the UU</li> <li>• VITL Task Force at UU</li> <li>• Some faculty have already incorporated VITL into their course work.</li> <li>• Lots of examples here at the UU</li> <li>• Students are ready</li> <li>• Employers are demanding students with these skills.</li> </ul>

<sup>13</sup> New Media Consortium. (2005) *A Global Imperative: The Report of the 21st Century Summit*. [http://archive.nmc.org/pdf/Global\\_Imperative.pdf](http://archive.nmc.org/pdf/Global_Imperative.pdf).

## Appendix D: Existing Visual Literacy Courses at the University of Utah

Department	Course Number	Course Name
Architecture	2630	Architecture Design Workshop
Architecture	6050	Visual Communications
Architecture	6271	Information Architecture
Art	1010	Introduction to the Visual Arts
Art	2010	Creative Problem Solving in the Visual Arts
Art	2200	First Year Studio 2-D
Art	2300	First Year Studio 3-D
Art	2400	Visual Language Studio
Art	3010	Language of Color
Art	3510	Illustration
Art	3600	History of Graphic Design
Art	3610	Visual Communication I
Art	3620	Visual Communication II
Art	3650	Graphic Problems I
Art	3660	Graphic Problems II
Art	3670	Digital Studio Practices
Art	3700	Digital Imaging for Visual Arts
Art	4510	Graphic Illustration
Biomedical Informatics	6460	Web Design
Communication	3550	Principles of Visual Communication
Communication	3510	Intro to Web Design
Communication	4570	Visual Editing
Communication	5510	Advanced Web Design
Communication	5520	Interactive Narrative
Communication	5530	Visual Communication
Communication	5650	Videogames Studies
Communication	5680	Computer mediated communication
Communication	5770	Communication Design
Communication	6530	Visual Communication
Communication	6650	Videogame Studies
Communication	6680	Computer Mediated Communication
Computer Science	1040	Creating Interactive Web Content
Computer Science	1050	Computers in Society
Computer Science	5320	Computer Vision
Computer Science	5600	Introduction to Computer Graphics
Computer Science	5610	Interactive Computer Graphics
Computer Science	5630	Scientific Visualization
Computer Science	6360	Virtual Reality
Computer Science	6610	Interactive Computer Graphics
Computer Science	6620	Ray Tracing
Computer Science	6630	Scientific Visualization

## Existing Visual Literacy Courses at the University of Utah

Department	Course Number	Course Name
Design		Design Thinking
Educational Psychology	6560	Multimedia Learning
Educational Psychology	6447	Intro to Web Design
Educational Psychology	6561	Adv Multimedia Learning Design
Educational Psychology	6562	3D Design
Fine Arts	2000	Computers and the Arts
Fine Arts	2300	Videogame Theory and Design
Fine Arts	3000	Designing for the Mind
Fine Arts	3030	Digital Arts: Theory and Practice of New Media
Fine Arts	3100	Designing for the Web
Fine Arts	3700	Multimedia Graphic Design for the Arts
Fine Arts	3750	Game Development
Fine Arts	4100	Interactive Media Design
Fine Arts	4200	Advanced Interactive Design and Game Development
Fine Arts	4473	Integrative Arts and Technology
Fine Arts	3200	Experimental Animation, Video and the Web
Fine Arts	3350	Introduction to 3-D Computer Graphics
Geography	1500	Digital Cities
Geography	3040	Principles of Cartography
Health Education and Promotion	3020	Patient Education
Marketing	4500	Introduction to Advertising
Parks, Recreation, & Tourism	3700	Computer Applications in Parks, Recreation and Tourism
Parks, Recreation, and Tourism	5460	Electronic Marketing for PRT Services
Statistics	5003	Survey of Statistical Computer Packages
Statistics	6003	Survey of Statistical Computer Packages
Writing	3040	Digital Storytelling
Writing	4030	Visual Rhetoric

## Appendix E: Additional Information about Pilot Projects

Pilot projects planned for academic year 2009-10 will provide experience in establishing faculty and library partnerships, developing effective assignments, and collecting and evaluating data related to this recommendation. Willing partners in the University Writing Program and Undergraduate Studies have been identified and student projects/assignments have been defined. Upper-division, transfer, and research methods classes have also been identified to include in the pilot study.

Detailed planning involving librarians and instructors will take place over the summer to prepare for implementation in Fall Semester 2009. Planning will include further development of lesson plans and student projects and creation of an assessment plan for the pilots. Assessment will include components such as pre and post self-evaluation of skills in visual, information and technology literacy, a survey of faculty about perceived student learning outcomes, collecting examples of student work for further comparative analysis, and peer review by librarians and instructors in the University Writing Program, Undergraduate Studies, Educational Psychology, and the library. A report at the end of the pilot year will include qualitative and quantitative analyses of learning outcomes and student experiences, an accounting of time and other resources required for completion of the pilot, and a projection of resources needed to accomplish scalability and expanded implementation.

### Pilot Project Part 1. A Plan for VITL in First-Year Programs:

*The curriculum creates opportunities for students to:*

1. *Interpret* documents and materials containing visual and technical elements as well as discipline or topic-relevant information resources.
2. *Communicate* visual material using technical tools drawing on appropriate discipline or topic-specific information resources.
3. *Demonstrate* reasoning and problem solving.

The questions for instructors and librarians include the following: “What kind of assignments will support student development in this area?” “How might this competency be demonstrated?” “In what ways will students need to be supported by their instructor and the library in order to acquire the skills necessary to demonstrate learning and competency?”

According to an Undergraduate Studies brochure, the Learning Engagement Achievement Progress program (LEAP) “comes in three varieties: Thematic LEAPs explore the theme of community and diversity in different ways; Pre-professional LEAPs do the same thing within a cohort of students with similar interests; some are multi-year experiences; Residence Halls LEAPs allow residential students to take both their LEAP and writing courses on site.”

For first-year students—especially those in the Thematic LEAP and the LEAP + Writing 2010 classes—this might involve something as basic as a presentation that accompanies the completion of a research paper. Pre-Professional LEAP students could do the same, but a broadly-conceived, discipline-specific task might be more relevant.

### Task 1: Presentation on Research Findings

#### Sample Student Project:

After completing a research paper exploring a theme of diversity or community, the student will share findings with the rest of the class.

- Student(s) will submit visual aids (PowerPoint, poster board, video or webpage) and conduct a 5-7 minute presentation, allowing for questions from the audience.
- Student(s) will use oral emphasis.
- Student (s) will integrate speech and visual aids.
- The visual aids will synthesize research findings—either those of the student, or those that emerge from library research.

Pre-Professional LEAP students might do Task 1, but a broadly-conceived, discipline-specific task might be more relevant.

### **Task 2: Presentation Describing and Illustrating a Real World Business, Engineering or Health Professions Problem**

#### Sample Student Project:

Student(s) will describe a real world problem and its relevance. (Some possible examples: comparing financing options, investing money, rising costs of purchasing textbooks, costs of fuel-saving technologies or fuel-extraction technologies, advantages of one kind of medical treatment over another, the expansion of the roles of non-MDs in general health practice.)

- Student(s) will write a simple problem statement to describe the situation.
- Student(s) will suggest a way to resolve the problem.
- Student(s) will use an appropriate technology tool to create a graph or chart.
- Student(s) will explain in writing and/or in an oral presentation how the graph confirms the equation.
- Student(s) will write a summary of the project, and suggest the significance of the findings.
- Plan a campus VITL symposium and outreach activities.

### **Pilot Project Part 2: A Plan for VITL in Upper-division Classes**

The nature of disciplinary specialization will dictate the kind of VITL teaching, learning and production in upper-division classes. We anticipate, however that by the end of an upper-division VITL course students will be able to interpret, use, appreciate and create images using both conventional and 21<sup>st</sup> century media in ways that advance thinking, decision-making, communication and learning.

For the upper-division pilot project we anticipate using existing classes to create case studies of successful VITL. (See Appendix E: Existing Visual Literacy Courses at the University of Utah).

July 2010 – evaluate pilot projects, data, student work and learning outcomes, etc.

After the pilot, the experiences and findings will be used to further plan for full implementation across the curriculum. No doubt this will be an iterative process: in subsequent academic years the project will be expanded.

## **Appendix F: Proposed RFP for VITL Curriculum Integration Grant Program**

### **Purpose**

The purpose of the Visual, Information and Technology Literacy Curriculum Integration Grant program is to foster the promotion of novel methods and techniques for integrating and teaching new literacy needs in the classroom. The goal of these classes is to better prepare our students as critical thinkers across a range of information modes.

The course should address one or more of these areas.

- *Visual literacy:* The course will demonstrate students' ability to use, construct, analyze and communicate visual information.
- *Information Literacy:* The course will demonstrate students' abilities to apply information to high-level problem solving and engage in analytical and critical thinking. In addition, the students' will demonstrate the ability to determine the extent of information needed, access and use information effectively and efficiently, evaluate information and its sources critically, and understand the economic, legal, and social issues surrounding information and access and use information ethically and legally.
- *Technology Literacy:* The course will demonstrate the use of technological tools showing more than the acquisition of basic skills. This requires the use of the tool to promote self-confidence and curiosity to advanced content that will facilitate the continual adaptation to new technological aids such as online search engines, software applications and hardware advances.

Funding is available for the development or significant revision of classes that encompass some or all of these concepts. A faculty member may propose a course that is taught in a traditional way but could significantly benefit from the integration of visual, information or technology literacy concepts into the curriculum. Alternately, a class may be proposed that teaches traditional technical knowledge, such as the use of a particular software application, but introduces new critical thinking skills to the use of this technology.

For example: A writing class may integrate new technology in "team writing" exercises, utilizing cloud computing programs and on-line project management calendaring practices, and critiquing the utility of using these technologies for the assignments. Conversely, a class teaching web design may integrate visual art and art history concepts.

### **General Information**

- Grant awards are for up to \$5,000 based upon approved budget. Budget items may include course buyout for the instructor, TA salary, or other justified costs.
- All University of Utah faculty are eligible for this funding program.
- Team taught courses by faculty from different disciplines are encouraged, if this is

integral to the visual, information, and technology literacy component of the course.  
Library and research faculty can be a part of these teams.

- Grants are designed to support integration of one or all of the literacy components into a new or existing undergraduate or graduate course.

## Appendix G: Campus Infrastructure Issues

Challenges	Barriers	Solutions	Opportunities
<ul style="list-style-type: none"> <li>• Software upgrades</li> <li>• Information about specific hardware and software in classrooms is unavailable</li> <li>• Faculty requests for new software in certain labs or classrooms</li> <li>• One-time software/ hardware use for a specific course</li> <li>• Scheduling computer classrooms for just the days needed and not the entire semester</li> <li>• No comprehensive structure for the upkeep of hardware and software in 180+ general purpose rooms</li> <li>• Difficult to balance demands of semester-long courses and short-term usage of University Libraries facilities</li> <li>• Faculty and IT professionals are unaware of the resources available.</li> <li>• Whose responsibility to provide campus-wide information about computing labs and classrooms?</li> </ul>	<ul style="list-style-type: none"> <li>• Personnel time and staffing availability</li> <li>• Required software and hardware upgrades in classrooms</li> <li>• No centralized campus registry for classroom hardware and software</li> <li>• Campus 60/40 split between PCs and Macs</li> <li>• Faculty preference is to use own laptops in classrooms</li> <li>• Costs of hardware and software (including maintenance and installations)</li> <li>• Inability to either provide security for or monitor 180+ general purpose classrooms during evenings, weekends, and when the University is not in session</li> <li>• Faculty are at a loss as to whom to call in each room for assistance</li> <li>• Funding</li> <li>• Faculty needs vs. IT professionals needs</li> </ul>	<ul style="list-style-type: none"> <li>• Software upgrade during summer 2009</li> <li>• Use the “Room Special Features” table in ASTRA to input information about classrooms in order to improve classroom decision-making</li> <li>• Match room to enrollment size when possible</li> <li>• Schedule rooms with special equipment for just days needed and other classrooms on other days</li> <li>• Start developing an infrastructure that provides upkeep for the hardware and software in the 180+ general purpose classrooms.</li> <li>• Create a smaller ad hoc committee that would review semester-long requests in the Marriott Library</li> <li>• Encourage collaboration between IT professionals, staff, and faculty</li> <li>• Encourage all faculty to test out their equipment in the room they are going to use</li> <li>• Post instructions on who to call and how to use equipment</li> <li>• Have faculty check out or bring own VGA cables</li> <li>• Create a central web site for communicating details and specifications about: <ul style="list-style-type: none"> <li>◦ Scheduling computing labs and classrooms on campus</li> <li>◦ Faculty tech support</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• ASTRA (current classroom scheduling software)</li> <li>• Scheduling Office</li> <li>• Current facilities and campus departments support technology in the classroom or lab including: <ul style="list-style-type: none"> <li>◦ Office of Information Technology (OIT)</li> <li>◦ Instructional Media Services (IMS)</li> <li>◦ University Libraries</li> </ul> </li> <li>• Technology Assisted Curriculum Center (TACC)</li> <li>• Center for Teaching and Learning Excellence (CTLE)</li> <li>• Continuing Education courses</li> <li>• University Training Consortium (UTC)</li> </ul>

## Appendix H: Visual, Information and Technology Literacy Selected Sources

- Association of American Colleges & Universities (AAC&U). (2007). College learning for the new global century. [http://www.aacu.org/leap/documents/GlobalCentury\\_final.pdf](http://www.aacu.org/leap/documents/GlobalCentury_final.pdf)
- Bleed, R. (2005). Visual literacy in higher education. *ELI Explorations*. <http://net.educause.edu/ir/library/pdf/ELI4001.pdf>
- EDUCAUSE. (2009). The EDUCAUSE Top Teaching and Learning Challenges 2009. <http://www.educause.edu/eli/Challenges>
- Elkins, J. (Ed.). (2007) *Visual literacy*. New York: Routledge.
- Finan, N. (2002). Visual literacy in images used for medical education and health promotion. *Journal of Audiovisual Media in Medicine*, 25(1), 16-23.
- Frey, N. & Fisher, D. (Eds.). (2008). *Teaching visual literacy using comic books, graphic novels, anime, cartoons and more to develop comprehension and thinking skills*. Thousand Oaks, CA: Corwin Press.
- Glassman, P., et. al. (2002). Is a picture really worth a thousand words? Information literacy and the visual learner. Papers from the 2002 Art Libraries Society of North American and Visual Resource Association Joint Conference. *Visual Resources Association Bulletin*, 29(3): 27-41.
- Harris, B.R. (2006). Visual information literacy via visual means: three heuristics. *Reference Services Review*, 34(2): 213-21.
- Johnson, L. (2006). The sea change before us. *EDUCAUSE Review*, 41(2): 72-73. <http://www.educause.edu/ir/library/pdf/ERM0628.pdf>
- Lindgaard, G., Fernandes, G., Dudek, C., & Brown, J. (2006). Attention web designers: You have 50 milliseconds to make a good first impression! *Behaviour & Information Technology*, 25(2), 115-126.
- Lippincott, J. (2007). Student content creators: Convergence of literacies. *EDUCAUSE Review*, 42(6), 16-17. <http://net.educause.edu/ir/library/pdf/ERM07610.pdf>
- Marcum, J.W. (2002). Beyond visual culture: The challenge of visual ecology. *Portal: Libraries and the Academy*, 2(2): 189-206.
- New Media Consortium (NMC). (2005). A global imperative, the report of the 21<sup>st</sup> Century Literacy Summit. <http://www.adobe.com/education/solutions/pdfs/globalimperative.pdf>
- Noggle, G., & Kaid, L. L. (2000). The effects of visual images in political ads: Experimental testing of distortions and visual literacy. *Social Science Quarterly*, 81(4), 913-927.

- Portewig, T. C. (2004). Making sense of the visual in technical communication: A visual literacy approach to pedagogy. *Journal of Technical Writing & Communication*, 34(1/2), 31-42.
- Richards, A. R. (2003). Argument and authority in the visual the representation of science. *Technical Communication Quarterly*, 12(2), 183-206.
- Smolin, L. I., & Lawless, K. A. (2003). Becoming literate in the technological age: New responsibilities and tools for teachers. *Reading Teacher*, 56(6), 570-577.
- Snavey, L., Arp, L. & Woodard, B. S. (2005). Visual images and information literacy. *Reference & User Services Quarterly*, 45(1), 27-32.
- Stylianopolous, L.W. (2005). Teaching images: Finding the bigger picture in information literacy. *Visual Resources Association Bulletin*, 32(2): 74-76.
- Sullivan, D. F. (2008). Why IT matters to liberal education. *EDUCAUSE Review*, 43(1), 10-11.  
<http://net.educause.edu/ir/library/pdf/ERM0816.pdf>
- Tufte, E. R. (1990). *Envisioning Information*. Cheshire, CT: Graphics Press.
- Lengler, R. & Eppler, M. J. (n.d.). A periodic table of visualization methods.  
[http://www.visual-literacy.org/periodic\\_table/periodic\\_table\\_as\\_pdf.pdf](http://www.visual-literacy.org/periodic_table/periodic_table_as_pdf.pdf)