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UCLA Information Literacy Program. Blended Instruction Course (BICo) Task Force Report

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UCLA Information Literacy Program

Blended Instruction Course (BICo)
Task Force Report

September 30, 2005

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Executive Summary

In 2001, a research study confirmed what UCLA librarians had observed anecdotally for many years: UCLA undergraduates are not information literate (Caravello, et al., 2001). They do not know how to identify, locate, evaluate and use information effectively and ethically. According to the 2001 study, the most effective "treatment" for this condition is increased use of library resources by means of research-related assignments. This study culminated 25 or more years of hard work and lobbying by UCLA instruction librarians to raise consciousness among faculty, students, administrators and staff, first about the need for bibliographic instruction and later, information literacy. The 2001 study resulted in the establishment of an Information Literacy Initiative at UCLA, which has now evolved into a more formal Information Literacy Program.

Four years after the 2001 study was published, the need for information literacy instruction continues to grow at UCLA, yet the numbers are daunting: 32,000 students (almost 28,000 undergraduates) and only about 45 librarians involved in instruction, with just 6.5 of them in the College Library, where the bulk of information literacy instruction for undergraduates takes place. Libraries that serve graduate and professional students have also seen a growth in the number of instruction sessions over the past four years. A number of librarians continue to be interested in teaching courses or labs as one means of helping to meet this need. Over the past three to four years, librarians have worked collaboratively with faculty and others to design, propose and teach information literacy credit courses and a lab. The new courses and lab fall within the UCLA Writing Programs, the UCLA Honors Department, and the Sociology Department.

Librarians teaching these courses follow the course structure used by faculty—i.e., weekly, in-person meetings, including both lecture and interactivity, written assignments, and some online work. Over the past few years, UCLA librarians have

become more intensive technology users, learned more about pedagogy, and the teaching/learning options offered by instructional technology. One of these options stands out: blended instruction (also known as "hybrid instruction"), a combination of in-person and online teaching and learning. Interestingly, studies and other reports indicate that a balance of in-person and online formats is most satisfying to students and does best at improving learning. (Martyn, 2003; PEW, 2003a, 2003b).

Within this context, the UCLA Information Literacy Program charged a Task Force to investigate blended instruction options for information literacy credit courses and labs. The charge reads as follows:

> The BICo Task Force is charged with investigating and making recommendations for a model 1-unit information literacy blended instruction course which would combine elements of in-person and online instruction. The Task Force will look into existing blended instruction courses, both for information literacy and for other disciplines, including those proposed by faculty in response to a 2004 UCLA OID RFP for blended instruction courses. Specifically, the Task Force will investigate and make recommendations regarding the following:
>
> 1. expected learning outcomes
> 2. curricula, assignments & grading
> 3. instructional formats
> 4. types of technology (hardware & software) used to teach "blended courses"
> 5. assessment of effectiveness
>
> The report should include recommendations regarding all five of the areas listed above, and training needs, as well as estimated costs and existing resources.
>
> The Task Force report is due September 30, 2005.

The Task Force has completed its investigation and offers a number of recommendations, based on that investigation as well as the recognition of some overarching lessons. The Report addresses issues regarding costs, however, estimated costs are not included, as there are many possible alternative approaches, formats and vendors.
.
Overarching Lessons:

- Courses which offer a balanced mix of in-person and remote technology-based teaching/learning result in more positive student learning and satisfaction than courses which are completely in-person or completely online.

- A successful blended instruction program requires sufficient initial and ongoing support from the Library and the institution, including budget, release time, additional staff time, training, software, hardware, and facilities.

- As technology evolves, so must blended instruction course formats and teaching/learning activities.

- Student use of and comfort level with personal technology devices (iPods, cell phones, text-messaging devices) should not be confused with technology literacy or information literacy.

- Skill levels and access to technology vary greatly among faculty, staff and students, so increased use of technology necessitates ongoing training to help them reach a common level of expertise.

- Students must assume a great level of responsibility for learning in a blended instruction environment, so must move from a passive to an active role in their own learning.

- On a campus level, increased inclusion of technology in courses may require additional computing facilities, hardware, and software for students, staff and faculty.

RECOMMENDATIONS IN BRIEF: (See the full report, pages 16-19, for additional remarks regarding these recommendations.)

Technical Support

1. Make a course management system (CMS) available for pilot testing with 1 unit information literacy courses and labs.

2. Provide ongoing technical support, from the outset, to develop and adapt instructional materials for an online environment.

3. Provide ongoing programmer time for course development, course maintenance and updates.

4. Provide up-to-date hardware and software for design and development.

5. Maintain up-to-date backup copies in formats that will enable importing and exporting of files for future technology iterations.

6. Ensure that interested students who enroll in blended instruction courses and labs receive technology instruction when needed, both in advance of and during the course, and have ongoing support for technical problems they may encounter, as their technology skills can vary greatly.

Training and Development

7. Encourage librarians to design new information literacy courses and labs, or to adapt existing courses and labs, in order to use a blended instruction approach to enhance

and improve learning, in particular, by utilizing technology to address Chickering's and Gamson's seven principles of good practice in undergraduate education (Chickering and Gamson, 1987).

8. Encourage librarians to continue to experiment with various types of technology in order to help achieve expected learning outcomes in one-shot information literacy sessions, as well as in quarter-long credit courses and labs.

9. Provide ongoing training and other support for staff interested in using online instructional materials and teaching methods.

Faculty/Librarian Collaboration

10. Raise consciousness among faculty about the value of librarian participation in course web sites for the purpose of improving students' information literacy skills.

11. Work with faculty and campus computing networks to establish a systematic or automatic means of providing librarians with guest access to class web sites, both for one-shot instructional sessions and credit courses and labs.

Publicity and Promotion

12. Publicize and promote blended courses and labs, and their formats, widely and on an ongoing basis.

Assessment and Further Development

13. Appoint a training, support and "quality control group" charged to review and assess current blended instruction courses and labs, as well as technological and other options for further development.

In addition to these recommendations to the UCLA Library, the Task Force notes that the campus as a whole needs to address certain critical issues, particularly the need to ensure that students understand and have the skills to use technology required for blended courses, as well as ongoing support for technology-related problems as they may occur. Furthermore, the campus needs to ensure that sufficient teaching/learning classroom space is available to teach any in-person sessions of additional pilot blended instruction courses, and that sufficient up-to-date hardware and software is available for students who wish to take these blended instruction courses.

Finally, the Task Force wishes to bring to the Library's attention the fact that two of its members (Dominique Turnbow and Esther Grassian) are eager to pilot blended courses in Spring 2006, specifically, the FIAT LUX seminars geared to GE80 students. The Task Force supports this willingness to experiment, and hopes that it will encourage other librarians to experiment with blended instruction as well. However, in order to accomplish this, even as a pilot, the Library would need to commit sufficient resources to the task, as described in the Task Force's recommendations. It is also important to

note that blended instruction or completely online courses may or may not allow the Library to expand its high quality instructional reach to more learners. Pilot studies would help determine this.

Introduction

Over the past five years, delivery of instruction has changed dramatically to reflect the current educational, social, and cultural climate on the UCLA campus. Educational institutions are taking advantage of technologies that are becoming widely available. More students than ever before have access to computers, high speed internet connections, and technologies that facilitate learning in a variety of virtual and physical spaces. Educators are faced with the challenge of providing high quality instruction to more students online as they begin to respond to a growing demand for online courses.

Many researchers have detailed the differences in the needs and expectations of today's students. Jason Frand discusses some of the qualities of the "Information-Age Mindset" at length (Frand, 2000). These include the ideas that computers are not considered technology, multitasking is a way of life, and staying connected is essential. Frand furthers his case by arguing for educational institutions to support the activities of students with this information-age mindset by exploiting the technologies that most campuses have already invested large resources in supporting. He writes, "If teachers continue to teach in the same way that they have always taught, there will be little value added from classroom and campus networks. If students approach learning in the same way that they always have, computer labs and laptop programs will be unnecessary expenses" (Frand, 2000). The UCLA Library should take advantage of the resources and networks we already have to contribute to teaching in a way that appeals to today's learners.

Many universities offer online courses to their students, and research has already shown a growth in the demand for them. A report published by the Sloan Consortium in 2004 points out that over 2.6 million students were predicted to enroll in at least one online course in Spring and Fall 2004, compared to 1.6 million in Fall 2002 (Allen and Seaman, 2004). If these numbers are any indication of the future of instruction, the UCLA Library must be poised to meet the needs and expectations of students for online instruction.

The UCLA Library is increasingly providing information literacy instruction to classes across the campus. For the past three years, several UCLA librarians have been teaching one-unit information literacy credit courses, and others taught an information literacy lab as part of another academic course. These classes require each librarian to teach one 50-minute session per week for ten weeks, though the Honors Department is open to more flexible instructional arrangements for FIAT LUX courses. With the demand and need for these classes growing, the Library should explore alternative methods of course delivery to ensure that there is enough trained staff and resources to continue to provide high quality instruction. The Library is also interested in extending the reach of these courses by offering them to more students. A pilot study would help determine whether or not online or blended instruction will allow the Library to expand its offerings, while still maintaining high quality instruction.

The Blended Instruction Course Task Force (BICoTF) was charged with investigating and making recommendations for a model one-unit information literacy blended instruction course which would combine elements of in-person and online instruction. The Task Force looked into existing blended instruction courses, both for information literacy and for other disciplines, including those proposed by faculty in response to a 2004 UCLA Office of Instructional Development (OID) RFP (Request for Proposals) for blended instruction courses. Specifically, the Task Force investigated and offers recommendations in this report regarding the following:

- Expected learning outcomes
- Curricula, assignments, and grading
- Instructional formats
- Types of technology (hardware and software) used to teach blended courses
- Assessment of effectiveness

Investigation: General

Prior to its first meeting, Task Force members were asked to read several documents to prepare them for initial discussion of the charge and the group's tasks (Kiernan, 2002; Matthews, 2003; Murphy, 2001; Pew, 2003; Twigg, 2003). The Task Force began its work by discussing its charge and noting some important general observations, including the following:

- Currently, the UCLA Library offers a number of non-credit one-shot sessions and workshops, many of which are integrated with academic courses, and some 1-unit credit courses (Writing Programs and FIAT LUX), as well as a 1-unit lab (Sociology). The Information Studies Department also offers a few undergraduate courses for credit, apart from the UCLA Library.

- Online models, curriculum or materials for blended courses, developed as a result of the task force recommendations could be repurposed or shared among a variety of new or existing courses/workshops.

- Librarians should teach blended information literacy courses, but ideally, there would be some level of collaboration with faculty in academic departments to customize content or resources for their discipline.

- Depending on the type of content, online learning may or may not always be appropriate; however, online learning can offer alternative learning styles not always possible in in-person classroom-based class sessions.

- One-shot instruction sessions may also be extended by providing online follow-up content and activities.

- It is important to note that lack of basic technical computer skills may pose a barrier to effective use of blended instruction by students.

- Course management systems provide many desired options for blended instruction and should be utilized for these types of courses.

The group then turned to examining definitions of "blended instruction." According to the readings mentioned above, "blended instruction" is a term that has emerged to describe the integration of classroom-based, and online learning experiences within a course or program. Other terms ("mixed-mode instruction" or "hybrid instruction") are used interchangeably with "blended instruction." While varying definitions exist, the general concept is that blended instruction falls somewhere in the middle of the spectrum of learning environments which range from fully synchronous (simultaneous) classroom-based, to fully online, synchronous (simultaneous) and/or asynchronous (any time, any place):

Classroom-Based   **Blended Instruction**   **Fully Online**

Investigation: Course Redesign

The concept of "blended instruction" is not new. The PEW Program in Course Redesign conducted an in-depth study in collaboration with thirty universities from 1999-2003, with the goal of determining the impact of technology on higher education both in terms of learning outcomes and cost effectiveness (PEW, 2003a). Based on the PEW research, Twigg (2003) identified five technology-enhanced course redesign models:

- **Supplemental:** the basic structure of the classroom-based course is retained but supplemented with online activities such as quizzes or discussion boards.

- **Replacement:** the amount of classroom time is reduced and replaced by online activities; at the same time, in-class activities are often reworked to focus less on a one-way lecture and more on active learning through case studies, collaborative activities, and instructor-student contact.

- **Emporium:** in-class meetings are eliminated and replaced by a learning resource center staffed by faculty and teaching assistants who provided personalized and small group guidance as students work at their own pace through the course curriculum.

- **Fully Online:** classroom-based meetings are eliminated and replaced with entirely online or technology based learning activities moderated by an instructor.

- **Buffet:** students created a personalized learning path according to their own learning styles, which may incorporate lectures, lab work, online activities, or other means of mastering course content (PEW, 2003b).

UCLA's recent experience offers an illustrative example of a range of forms of instruction even within the concept of "blended instruction." The UCLA Faculty Committee on Educational Technology's (FCET) and the UCLA Office of Instructional Development's (OID) joint Blended Instruction Case Studies (BICS) initiative differentiates between classroom-based courses which are simply "technology-enhanced" and blended courses by stating that "blended instruction courses provide a significant proportion of the curriculum electronically. The electronic component often, but not necessarily, replaces some of the time that is traditionally spent in the classroom" (UCLA, 2004a). Through the BICS initiative, UCLA has sought to assess the effect of blended instruction from multiple perspectives, including faculty experience, student experience, impact on resources, and learning outcomes. The three 2004/05 projects which received grant funding during the first round of awards were:

- Political Science 50: Introduction to Comparative Politics
- Statistics 10: Introduction to Statistical Reasoning
- Life Sciences 3: Introduction to Molecular Biology

For the Political Science 50 course, approximately half of the lectures were developed in an online format using a variety of technologies. Articulate Presenter was used to integrate recorded video segments, narrated PowerPoints including graphics, charts, and tables, Camtasia screen recordings demonstrating data analysis, self-assessment exercises, and downloadable datasets, all in one streamlined interface.

For the Statistics 10 course, the Statistics department used Moodle, an open-source course management system (Moodle, n.d.), to develop a test bank and administer quizzes to students online prior to discussion section meetings. Detailed statistics about quiz results enabled Stats 10 instructors and teaching assistants to tailor each week's lecture and discussion to focus on problem areas which students showed the most difficulty in mastering.

The Life Sciences 3 project is still under development as of Fall 2005, but will include online lectures and quizzes which focus on lab techniques, bioinformatics, and genomic research.

While the final assessment of the 2004/05 BICS projects has not yet been released to the campus, preliminary findings show that students readily accepted the online lecture format, preferred blended to fully online or fully classroom based instruction, and frequently viewed lectures multiple times, especially in preparation for an exam. The faculty and teaching assistant preparation time required for producing online lectures and quizzes was generally underestimated, and the complexity of the projects required a team approach and close coordination between faculty, teaching assistants, and technical support staff (UCLA, 2004b).

The BICo Task Force learned about the UCLA BICS initiative and considered all five PEW Course Redesign models. Following discussion, the Task Force decided to look into the PEW Supplementary and Replacement models. In the end, the Task Force

focused primarily on the Replacement Model as most closely matching its definition of blended instruction—i.e., a course which is 50-75% online with the remainder, in-person.

The PEW study found successful outcomes in several of the Replacement Model courses, beyond the "no significant difference" typically found in educational research which compares in-person and online instruction (Russell, 2005), including:

- At the University of Colorado, Boulder, an Introductory Astronomy course (1,080 students/semester) was redesigned by reducing the number of lectures and placing students in 9-person collaborative learning teams, coached by Undergraduate TAs to consider weekly discussion questions. Delivery of facts and concepts moved to the web, while the class meetings concentrated on understanding the material. Students' grades were tied to contribution in weekly responses to questions. Web based modules included sets of graded homework exercises, an online astronomy text, and group creation of web pages. Class discussions focused on questions where answers disagreed or produced "controversy." A thorough comparison of the redesigned course to the original course was not possible. Positive student reactions outnumbered negative reactions by 5 to 1. 20% of students indicated a preference for individual work, while 80% enjoyed group work to get to know fellow students.

- At Portland State University, a high-demand Spanish course taught by one faculty ("course director") and up to 10 teaching assistants was redesigned to improve instructional quality and consistency, align better with state standards, and coordinate TA planning and training. Activities such as testing, grammar instruction, and listening comprehension were moved into an online format, while in-class sessions turned their focus toward oral communication and student-student interaction. Study results showed that students in the blended courses performed higher on oral exams (though the results were not statistically significant) and the redesign achieved a 31% reduction in per-student course costs.

- At Penn State, an Elementary Statistics course shifted from being a lecture-focused course to a split between lecture, computer-mediated workshops, and independent online learning modules to improve instructional quality and make instruction more individualized. Students in the redesigned class demonstrated a greater understanding of critical statistical concepts and outperformed students in traditional class on tests and homework assignments. Student drop rate also decreased from 12% to 9.8%.

While no single activity or method defines blended instruction, a number of common approaches have emerged to integrate online content, activities, and communication into traditional classroom-based courses, including:

- Delivering lectures or tutorials online in formats such as narrated PowerPoints, streaming media, or screen capture video
- Providing interactive computer-graded exercises and quizzes

- Moving course discussions online through use of discussion boards, chat, listservs, email or other communication tools
- Moving delivery of facts and basic concepts online, and using in-person time to discuss controversial issues, bubbled up via online discussion
- Enabling online collaboration through web projects, wikis, blogs, or other shared content authoring tools.

It is important to note here that, as Ko and Rossen emphasize, we cannot expect to improve learning simply by putting materials online as is, or simply by using a discussion board (Ko and Rossen, 2001). These approaches do not take advantage of the full benefits of blended instruction. Instead, we need to redesign courses to utilize those aspects of online and classroom environments that will help improve learning, in part, through increased student engagement.

Rather than the traditional lecture strategy of one-way information dissemination by the instructor, the classroom portion of a blended instruction course may be restructured to include activities that take advantage of the particular strengths of the face-to-face environment:

- Increasing student-student and instructor-student interaction
- Focusing discussions on in-depth analysis of content or discussion of issues, rather than "coverage"
- Engaging students in problem solving, case studies, group work, and other forms of active learning

The substantial resources that must be allocated for blended learning need to be justified by improved learning outcomes and cost/benefit analysis. Some of the practical benefits of blended instruction are:

- The ability to share, standardize and reuse content
- Learner control over pace and sequencing, and the ability to review online content multiple times
- Immediate feedback on computer-graded quizzes and exercises and quicker feedback on writing assignments
- Reduced grading load for instructors
- Lessened demand for classroom space
- More flexible scheduling for students and instructors

All of these benefits would allow for increasedfocus during in -person or remote synchronous (simultaneous) periods on more hands-on, collaborative activities, case studies, and closer instructor-student and student-student interaction.

Investigation: Low-Threshold Applications (LTAs)

Many elements of blended instruction directly impact teaching in ways that exemplify and advance Chickering's and Gamson's well known seven principles of good practice in undergraduate education (1987). According to Steve Gilbert of the Teaching and Learning Technology Group (TLTG), "A Low Threshold Application (LTA) is a teaching/learning application of information technology that is reliable, accessible, easy to learn, non-intimidating and (incrementally) inexpensive. Each LTA has observable positive consequences, and contributes to important long term changes in teaching and/or learning. '... the potential user (teacher or learner) perceives an LTA as NOT challenging, not intimidating, not requiring a lot of additional work or new thinking. LTAs… are also *low threshold* in the sense of having low INCREMENTAL costs for purchase, training, support, and maintenance.'" (TLTG, n.d.b) The following table, with text and ideas adapted from the TLT site (TLTG, n.d.a, n.d.c), shows how technology can help enable the seven principles:

Principle (Chickering and Gamson, 1987)	Practical Implementation Ideas
1. Good practice encourages contact between students and faculty	Use email, online journals, listservs, personal homepages, video introductions, and chat to connect students with faculty
2. Good practice develops reciprocity and cooperation among students	Use discussion boards, listservs, web projects, and group presentations to foster communication and collaboration among students.
3. Good practice encourages active learning	Transform in-class sessions from one-way lectures to focus on problem-solving, case studies, and group projects. Use interactive online exercises and tutorials.
4. Good practice gives prompt feedback	Use computer-graded quizzes or exercises with feedback, and web or email-based peer and instructor reviews to provide prompt feedback and opportunities for self-assessment.
5. Good practice emphasizes time on task	Use technology to manage course administration tasks (announcements, submission and grading of assignments) so class time is focused on learning.
6. Good practice communicates high expectations	Use online rubrics, peer review, and student examples to communicate high expectations.
7. Good practice respects diverse talents and ways of learning	Include multiple options for project selection and deliverables (web page, PowerPoint presentation, video or other media), and make course content available in various formats to accommodate learning style differences.

Investigation: FIAT LUX Course Analysis

The Task Force turned next to an examination of Esther Grassian's Spring 2005 1-unit FIAT LUX information literacy course syllabus. The course, focused on social sciences information resources, is Pass/No Pass, and designed for freshmen, particularly those enrolled in GE80: "Frontiers in Human Aging." Some aspects of the course already utilized technology. However, the group reviewed this syllabus in order to come up with ideas for supplementing or enhancing it with LTAs, to aid in converting it to a blended instruction course. Following is a list of possible LTA supplements that Task Force members suggested:

- Have e-mail or chat office hours.

- Before the class begins, ask students to e-mail their introductions to the instructor.

- Allow students to submit research journal assignments as Word documents via e-mail, with the instructor sending back comments using tracked changes. Moodle's "Assignments Module" may be another way of submitting assignments. This board is private so that students can submit their homework, but only the instructor sees it. Instructors can post comments using this tool as well. Moodle also has a "journal" option (Moodle, n.d.).

- Other online options include College Library's "Research Topic Focusing Worksheet" (UCLA. College Library, 2004) and "Finding Useful Books Exercise." (Online submission for both needs to be activated, and the latter needs to be updated and made live.)

- Allow students to post their Web site reports online and critique them online. Students could post comments/questions online using chat or discussion board, or pick from a menu of options regarding how they would like to complete this assignment—e.g., webcast; post written essay. The current generation of undergraduates especially appreciates having choices of means of completing assignments (Manuel, 2001), and providing such choices would also help students who are anxious about using some software that may be new to them.

- Use Articulate to convert PowerPoint slide shows and lectures into online offerings by posting lectures to be viewed prior to in-person classes, and using quizzes to assess learning from the lectures. The quiz would be based on the online lecture, would be required, and would close before class began to ensure that students would make an effort to view the lecture before class.

Following discussion, the Task Force identified ways in which librarians already use technology for FIAT LUX courses and developed a table (Appendix A) to show

potentially useful LTAs, as well as suggested means of informal and formal online assessment.

Lessons Learned and Principles Defined

As the Task Force investigated the issues surrounding blended instruction and worked on its charge, discrete "lessons" emerged which have become defining principles for this report.

- Courses which offer a balanced mix of in-person and remote technology-based teaching/learning, result in more positive student learning and satisfaction than courses which are completely in-person or completely online.

- A successful blended instruction program requires sufficient initial and ongoing support from the Library and the institution, including budget, release time, additional staff time, training, software, hardware, and facilities.

- As technology evolves, so must blended instruction course formats and teaching/learning activities.

- Student use of and comfort level with personal technology devices (iPods, cell phones, text-messaging devices) should not be confused with technology literacy or information literacy.

- Skill levels and access to technology vary greatly among faculty, staff and students, so increased use of technology necessitates ongoing training to help them reach a common level of expertise.

- Students must assume a greater level of responsibility for learning in a blended instruction environment, so must take a much more active role in their own learning than an in-person lecture course generally requires.

- On a campus level, increased inclusion of technology in courses may require additional computing facilities, hardware, software, training and support for students, staff and faculty.

Recommendations

Blended instruction is a real and necessary option, given limited staff as well as very large and growing learner populations. Our investigation has shown that both learners and instructors prefer blended instruction that includes some in-person and online learning experiences. Based on the findings of our investigation, we have developed recommendations for enhancements to both short-term ("one-shot") workshops and for-credit courses and labs, identified necessary resources to ensure development of a

sustainable, scaleable program, and provided a framework for ongoing assessment and revision of blended courses. The Task Force wishes to underscore, however, that developing and maintaining successful blended instruction courses, and, as a result, reaching more learners, will require ongoing investment in resources, release time, support, prioritization, long-term commitment, programmer time, quality control, training, and an effective efficient cycle of ongoing assessment, re-training and revision.

Technical Support

1. Make a course management system (CMS) available for pilot testing with 1-unit information literacy courses and labs.

 Currently available:
> **ClassWeb**
> This homegrown system, developed by the Social Sciences Computing Network (SSCNet), is available for use in a pilot study, as web sites for FIAT LUX courses designed to support GE80 can be mounted on the SSCNet server, and a number of online tools are already available through this CMS.
> (Note: Would require the same sort of support from SSCNet as provided to other social sciences courses.)
>
> **Moodle:** This CMS, currently being used by GSE&IS is PhP- and MySQL-based, but its development has been less disciplined than SAKAI. Moodle requires its own server, however, the Library may be able to experiment with using it if GSE&IS or some other Department is able and willing to permit its use, at least for pilot studies.

 In development:
> **SAKAI:** This CMS is a Java-based, community-source course management system, with code being developed on a shared basis by those participating in the project at a number of colleges and universities. SAKAI will form a framework where colleges and universities can plug in new tools to be developed in the future. However, the Task Force understands that SAKAI will probably not be ready for widespread use at UCLA for 1-2 years. Furthermore, once SAKAI is implemented, there is no way to tell if it will be used universally, or even widely, at UCLA.

2. Provide ongoing technical support, from the outset, to develop and adapt instructional materials for an online environment.
Instructional materials for an online environment must be created in formats that are as portable as possible among systems for current use, and that can be adapted or migrated to new systems to meet changes in technology over time.

3. Provide ongoing programmer time for course development, course maintenance, and updates.
 Among other essential duties, programmer time would be needed for development and on an ongoing basis, to add rosters to the CMS each quarter, so students can log on

and make use of the system.

4. Provide up-to-date hardware and software for design and development.
Examples of potentially useful software include Adobe Professional and Articulate, in addition to a CMS.

5. Maintain up-to-date backup copies in formats that will enable importing and exporting of files for future technology iterations.

6. Ensure that interested students who enroll in blended instruction courses and labs receive technology instruction when needed, both in advance of and during the course, and have ongoing support for technical problems they may encounter, as their technology skills can vary greatly.
Examples of such support include: technology tutorials, in-person classes, orientations, skill checklists or self-assessments, referrals to other resources for technology-related skills, including CLICC, etc.

Training and Development

7. Encourage librarians to design new information literacy courses and labs, or to adapt existing courses and labs, in order to use a blended instruction approach to enhance and improve learning, in particular, by utilizing technology to address Chickering's and Gamson's seven principles of good practice in undergraduate education (Chickering and Gamson, 1987).

8. Encourage librarians to continue to experiment with various types of technology, to help achieve expected learning outcomes in one shot information literacy sessions, as well as in quarter-long credit courses and labs.

9. Provide ongoing training and other support for staff interested in using online instructional materials and teaching methods.
 Such support would include release time for librarians to learn, to design, to develop materials, and to experiment with their use in teaching.

Faculty/Librarian Collaboration

10. Raise consciousness among faculty about the value of librarian participation in course web sites for the purpose of improving students' information literacy skills.
 Such participation may include the ability to view course materials, to view and respond to discussion board postings for information-literacy-related questions, and to create information literacy pretests and post-tests.

11. Work with faculty and campus computing networks to establish a systematic or automatic means of providing librarians with guest access to class web sites, both for one-shot instructional sessions and credit courses and labs.

Publicity and Promotion

12. Publicize and promote blended instruction courses and labs, and their formats, widely, and on an ongoing basis.

The Library needs to advertise the existence and requirements of blended instruction courses in order to raise student awareness and help them understand what would be involved in taking such courses, including technology skills and the student's responsibility to engage actively.

Assessment and Further Development

13. Appoint a training, support and "quality control group" charged to review and assess current blended instruction courses and labs, as well as technological and other options for further development.

Issues Regarding Costs

It is extremely difficult to estimate costs to develop and institute blended information literacy instruction courses, as there are many variables, each of which may be addressed and funded in a variety of ways and at a range of costs. Following are examples of some of these variables, along with examples of some of the ways in which they might be addressed, though this is not an exhaustive list:

1. Provide ongoing programmer time
   - a. Utilize existing salaried LIT programmer/analyst time, on a dedicated basis
   - b. Hire outside professional programmer/analyst
   - c. Hire amateur student programmer

2. Make a CMS available
   - a. Utilize ClassWeb, freely available through SSCNet
   - b. Utilize Moodle—requires a dedicated server, or shared use with another department, such as GSE&IS. Such shared use may entail expenses for shared server cost and programmer time
   - c. Utilize SAKAI when available (will also require programmer time)

3. Provide software and up-to-date hardware for design and development
   - a. Purchase or upgrade hardware and purchase individual licenses for specific software, or a large variety of software for experimentation—costs will vary greatly, depending on the number of individual licenses and applications/packages purchased, as well as cost of upgrading or purchasing new hardware
   - b. Purchase or upgrade hardware and purchase site licenses for specific software, or a large variety of software—costs will vary greatly, depending on the

number of site licenses and applications/packages purchased, as well as cost of upgrading or purchasing new hardware

4. Provide release time for librarians to develop and teach courses
a. Expand already employed part-time librarians' hours to full-time to cover duties dropped or deemphasized due to release time
b. Hire temporary librarians to cover duties dropped or deemphasized due to release time (would require some training)
c. Hire Information Studies (IS) students, in addition to those already employed as Reference Desk Assistants, to cover some duties dropped or deemphasized due to release time (may require much training)

Appendix A: Sample Blended FIAT LUX Course

A 1-Unit Quarter-Long FIAT LUX Course Converted to a Blended Instruction Course

	Instructor Activities Online	Instructor Activities In-Person	Expected Learning Outcomes	Student Activities	Assessment
Pre-course	• Introductory email with directions re activities • Syllabus			Online • *Individual intro form/ exchange (Due: Day 1) • 4 RTR pretests (Due: Day 1 or Day 2) In-Person • *Library Catalog Exercise (Due: Day 1 in person)	FORMAL: 4 "Road To Research" pretests
DAY 1		• Course overview and description of 1st research journal – due via email on Day 2 • Basic research Steps • Find a book on the shelf • Physical tour of library	• Describe the steps of the research process and its recursive nature • Use the UCLA Library Catalog effectively and efficiently in order to locate books • Locate a book on the shelf in College Library	In-Person • Participate in class discussion re research steps • Use library catalog exercise results & find book on shelf together with rest of class; or use catalog in class • (Optional: Physical tour of library) Online • 4 RTR pretests (Due: Day 1 or Day 2 online)	INFORMAL: 1-minute paper (Due: today in class, online)

	Instructor Activities Online	Instructor Activities In-Person	Expected Learning Outcomes	Student Activities	Assessment
DAY 2	• Email directions re topic selection exercise & encyclopedia exercise • Office hour for questions		• Identify a research paper topic and refine it. • Describe where research paper topic fits in the flow of information	<u>Online</u> • Topic selection exercise & form (Due: Day 3) • *Encyclopedia exercise & form—must compare 1 print & 1 online encyclopedia (Due: Day 3)	INFORMAL: "Muddiest Point" (Due: today during class; online)
DAY 3	• Visible vs. Invisible • Hoax exercise • Directions re activities		• Develop appropriate search strategies • Critically evaluate materials to identify those most useful for a research paper topic	<u>Online</u> • Students pair up & go through Hoax exercise sites on their own <http://www.library.ucla.edu/libraries/college/help/hoax/index.htm> • Student partners write report critiquing sites, create "My Web Site Evaluation Checklist" & post on class web site (Due: Day 4—post on discussion board)	INFORMAL: "What will you do differently" (Due: today during class; online)

	Instructor Activities Online	Instructor Activities In-Person	Expected Learning Outcomes	Student Activities	Assessment
DAY 4		• Invisible Web – print and online research tools (using Explore Database Exercise) • Directions for Webcast/chat; web site presentation and participation	• Develop appropriate search strategies • Critique research tools • Identify research tools most useful for a research paper topic • use appropriate research tools effectively • Critically evaluate materials to identify those most useful for a research paper topic	<u>Onlline</u> • *Explore Databases Exercise (Due: Day 5) • Written critique of web site related to research topic (Due: DAY 5 online—post on "Annotation Board": SSCNet)	INFORMAL: "Transfer & Apply" (Due: today during class; online)
DAY 5	• Students critique web site related to their research topic • Email directions for activities		• Critically evaluate web sites to identify those most useful for a research paper topic	<u>Online</u> • "Bruin Success…" certificates (Due: Day 6) • Each student must post 1 question each re any 3 web sites presented, on Annotation Board] • Research journal (Due: Day 6 --email)	•

	Instructor Activities Online	Instructor Activities In-Person	Expected Learning Outcomes	Student Activities	Assessment
DAY 6	• Copyright, intellectual property & plagiarism: Webcast/chat (synchronous) OR discussion board (asynchronous) • Give directions for activities		• Describe the ethical and intellectual issues related to information research	<u>Online</u> • Online polling – plagiarism quiz (during synchronous class) • Debate and questions to answer (on discussion board, if asynchronous session) • Research journal (Due: Day 7, email)	INFORMAL: "1-minute paper" (Due: today during class; online)
DAY 7	• Citation style – what is it; why cite: Webcast/chat • Give directions for student conferences		• Use APA citation style to cite materials consistently and accurately in a bibliography	<u>In-Person</u> • "Which is Which; What is Where" (in class) • *Citation style exercises (in class) • Be prepared to discuss research progress and bring at least 1 research question to student conference	INFORMAL: "Make a connection" (Due: today during class; online)
DAY 8		• Student Conferences		<u>Online</u> Research journal (Due: Day 10, email)	
DAY 9	*HOLIDAY*	*HOLIDAY*		*HOLIDAY*	

	Instructor Activities Online	Instructor Activities In-Person	Expected Learning Outcomes	Student Activities	Assessment
DAY 10		• Debriefing re research process • Give directions for activities • Course evaluations	• Feel more confident about conducting information research for academic and personal needs	<u>Online</u> 4 Road To Research Quizzes (Due: Finals Week, online)	<u>Online</u> FORMAL: 4 Road To Research Quizzes FORMAL: Instructor-created course evaluation form (Appendix B) <u>In-Person</u> FORMAL: Official course evaluation form

* = item exists as Word document, but needs to be turned into online form

Appendix B: Sample Instructor-Created Course Evaluation Form

[NOTE: Dominique Turnbow created this course evaluation and mounted it online using SurveyMonkey.]

FIAT LUX 19, Section 6, Dominique Turnbow (Spring 2005)
Course Evaluation

1. Which topic(s) did you find the most valuable this quarter? Select all that apply.
- ❑ How to select a research topic
- ❑ Identifying topic limiters
- ❑ Brainstorming related terms
- ❑ Identifying databases to search for a particular topic
- ❑ Creating search strategies using features such as subject headings and truncation
- ❑ How to evaluate web sites
- ❑ Copyright
- ❑ Plagiarism
- ❑ Privacy
- ❑ How to create citations
- ❑ None
- ❑ Other(s)?

2. What assignment(s) did you find MOST useful?
- ❑ LitSearch Journals
- ❑ Research Topic Focusing Worksheet
- ❑ Explore a Database
- ❑ Web site Report & Critique
- ❑ "Bruin Success with Less Stress" tutorial
- ❑ Meeting with instructor about your paper
- ❑ Annotated Bibliography

❑ None
❑ Other(s)?

2. What assignment(s) did you find LEAST useful?
    ❑ LitSearch Journals
    ❑ Research Topic Focusing Worksheet
    ❑ Explore a Database
    ❑ Web site Report & Critique
    ❑ "Bruin Success with Less Stress" tutorial
    ❑ Meeting with instructor about your paper
    ❑ Annotated Bibliography
    ❑ None
    ❑ Other(s)?

3. What was your FAVORITE in-class activity?
    ❑ Encyclopedia Evaluation exercise
    ❑ Selecting databases for your topic
    ❑ Evaluating Web sites
    ❑ Creating a poster about intellectual property, copyright, or plagiarism
    ❑ Identifying plagiarized paragraphs
    ❑ Pracitce paraphrasing a paragraph
    ❑ Which is Which (identifying type of citation)
    ❑ Practice writing a MLA and APA citation
    ❑ None
    ❑ Other(s)?

4. What was your LEAST FAVORITE in-class activity?
    ❑ Encyclopedia Evaluation exercise
    ❑ Selecting databases for your topic

❏ Evaluating Web sites
❏ Creating a poster about intellectual property, copyright, or plagiarism
❏ Identifying plagiarized paragraphs
❏ Practice paraphrasing a paragraph
❏ Which is Which (identifying type of citation)
❏ Practice writing a MLA and APA citation
❏ None
❏ Other(s)?

5. What topic(s) were not covered in this class that you wished and/or expected to be covered?

6. What is one thing (e.g. topic, assignment, in-class activity, etc.) you would keep the same for future classes?

7. Is there anything else you would like to tell me about the class?

8. Would you recommend this class to a friend?
❏ Yes
❏ No

9. Can I share your anonymous comments with other librarians or use them in promotional materials for next year?

Appendix C: Sample Technologies

The following table offers a sample of current and emerging technologies which may be used as part of a blended instruction course or lab.

Technology	Description	Possible Academic Usage
Course Management Systems	A password-protected online system which allows enrolled students and faculty access to course-specific content and tools. Examples include: Blackboard, WebCT, Angel, Moodle, Sakai, ClassWeb	Course calendar, announcements, discussion boards, chat, file sharing, content display, quizzes, etc.
Podcasting	"Broadcasting" of links to articles, blog postings, podcasts, calendar events, and updated web content.	Audio lectures, walking tours of libraries or other university facilities, guest lectures or panel discussions, recorded events.
Blogs	Short for "web logs" - chronologically organized series of text entries in an online journal; may include audio, images, or video clips. Usage can be limited to individual authors or groups. Blog visitors may be permitted to add comments to entries.	Student or faculty research journals, personal reflection journals, team project notes, ongoing faculty or student commentary on current events or topics of interest in a particular academic field.
Wikis	Collaborative software that allows people to share and edit information, including urls, by using a simple web page. Editing rights can be limited to specific individuals or open to the public.	Student or faculty research projects, web presentations, group writing projects, student-generated glossaries or encyclopedias.
Screen capture	Software for capturing still or video images of an entire computer screen, or parts of it. Captured images can be annotated, narrated, or otherwise modified.	Training or demos for software, course management systems, library databases, and other web applications; narrated slide shows or web tours.
RSS	"Broadcasting" of links to articles, blog postings, podcasts, calendar events, and updated web content.	Compile RSS feeds for dynamic content specific to course and incorporate into course web pages as required or recommended reading/resources.

Discussion Boards	Also known as online forums or bulletin boards – asynchronous (any time/any place) threaded text discussions, where responses are listed together with the message to which they are responding. May include file attachments.	Weekly discussion topics, peer review and critiques,
Chat	Synchronous (real time) discussions using a standalone chat application or one included in a course management system.	Virtual office hours, remote reference desk assistance, student-faculty conferences, guest lecturer chats, group project meetings.
Listserv	An email distribution system that allows subscribed members of a group to send and receive emails to all group members simultaneously through a central listserv email address.	Ongoing informal class discussions, announcements or updates; informal Q & A or assistance for course-related issues, with contributions from students and faculty.
Online quizzing	Either standalone or incorporated into course management systems; usually provide options for creating a variety of question formats, such as multiple choice, true/false, short answer, matching, ranking, and numerical.	Self-assessment quizzes after each lecture or chapter, practice exams for midterm and final, pre-class quizzes to check if students have completed assigned reading.
Online lectures	Web versions of in-person videos or slide presentations.–The latter may include narrations and video and interactive features.	Put lecture content online allowing students to review and take notes at their preferred pace; use class time instead for discussions, group work, student presentations, or other active learning instructional events.

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