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Western Kentucky University Libraries, Preparing Information Literate Students at WKU: Report of the Task Force on Universal Information Literacy

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Western Kentucky University Libraries

Preparing Information Literate Students at WKU: Report of the Task Force on Universal Information Literacy

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Approved by the Department Heads and the Dean
June 13, 2011

Executive Summary

Preparing Information Literate Students at WKU:
Report of the Task Force on Universal Information Literacy

Purpose:

The Task Force on Universal Information Literacy was formed in the fall of 2010 and charged with reviewing the advisability and viability of providing information literacy instruction to every student at WKU.

Recommendations:

The following recommendations represent the consensus view of the members of the task force, formed only after a thorough review of related academic literature, and adopted unanimously:

1. *WKU Libraries recommends that information literacy instruction be implemented within the context of the University Experience program.* Both programs have similar objectives, and both provide students with necessary tools for academic success.

2. *WKU Libraries recommends that University Experience be made mandatory for all first-time first-semester students.* University Experience is vital to retention efforts at WKU, and is too important to be left to a later semester.

3. *WKU Libraries recommends that University Experience be expanded to three credit hours.* Some students are hurt by the lack of a 3-credit class, and instructors are not given enough time to meet the learning outcomes of the course.

4. *WKU Libraries recommends that each University Experience course include three class periods of information literacy instruction.* Three is the minimum number of classes needed to cover the several distinct areas that students must understand in order to be academically successful at WKU, broadly characterized as:

   a. Services, units, and physical layout of the libraries;
   b. How to use the library's website and its online resources, including academic research databases;
   c. How to evaluate materials and resources (critical thinking); and
   d. How to make legal and ethical use of resources.

5. *WKU Libraries recommends that class sizes for University Experience be increased from 24 students to 30 students.* The program will have to accommodate almost twice as many students as it does currently. Increasing the class size slightly would allow this process to take place in an orderly, efficient manner, without overburdening faculty.

6. *WKU Libraries recommends that summative student learning assessment consist of a full paper or project.* This is the recommendation of library faculty, though if necessary the current annotated bibliography project—with the addition of formative assessment methods and a research diary requirement—could suffice.

The accompanying report provides a detailed rationale for the recommendations of the task force, along with suggestions for implementation of the program, possible learning outcomes, and incorporation into the curriculum.

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Introduction

Information literacy skills are vital for today's college student. These skills are associated with beneficial behaviors that improve student performance, academic achievement, and persistence, improve critical thinking skills, and prepare life-long learners. Employers consistently ask colleges and universities to place more emphasis on information literacy (Peter D. Hart Research Associates, 2008). The 2011 draft revision of Kentucky General Education Transfer Policy and Implementation Guidelines carries the following student learning outcome (under written and oral communication): "Find, analyze, evaluate, and cite pertinent primary and secondary sources, including academic databases, to prepare speeches and written texts" (Kentucky Council on Postsecondary Education, 2011).

Information literacy instruction leads to greater use of library resources or services, which leads in turn to vital behaviors that affect student persistence and critical thinking. These vital behaviors are positively correlated with the desired outcomes. Library use is positively associated ($p \leq .001$) with engaged writing behaviors, faculty-student interaction, and with active learning (Whitmire, 2002, p. 117). These desirable actions are in turn are associated ($p \leq .001$) with positive developmental outcomes and with student intent to persist (Braxton, Milem, Sullivan, & Shaw, 2000, p. 572; Berger & Braxton, 1998).

WKU Libraries has adopted a series of student learning outcome objectives for the information literacy program. Each of these areas supports more specific student learning outcomes. These objectives fall into four general categories, namely:

(a) Services, units, and physical layout of the libraries;
(b) How to use the library's website and its online resources;
(c) How to evaluate materials and resources (critical thinking), including primary vs. secondary and scholarly vs. popular materials; and
(d) How to make legal and ethical use of resources.

There are several potential places within the curriculum where information literacy instruction could be embedded. While WKU Libraries teaches over 500 research sessions annually, we believe that there should be one specific course where we can reach all students. The basic models are (a) a stand-alone for-credit course; (b) as a unit within English writing classes; or (c) as a unit within first-year experience programs such as UE 175. *WKU Libraries recommends incorporating information literacy for all students within the University Experience course.*

The current practice of using only one class period for library instruction is problematic—a conclusion that has been shown by UE 175 evaluations (McCaslin, 2009). Explaining the library assignment and demonstrating Blackboard takes about 30 minutes, leaving a scant 20 minutes or so to teach students about the library. *Because of the need to deal with dissimilar outcome categories, the physical facilities in Helm-Cravens Library and the Kentucky Library & Museum, and the need to explain Blackboard and the library assignment, three class periods are needed to adequately attain the student learning outcomes.*

Efforts are underway within University College to increase UE 175 to three credit hours. There is a parallel effort to make UE 175 mandatory for first-time freshmen during their initial semester of enrollment. *WKU Libraries enthusiastically supports these initiatives.* We believe that they will increase student persistence and lead to greater graduation rates by improving the academic achievement of first-year students at WKU. *The expansion of University Experience to 3 credit hours will also allow for enough time to properly teach information literacy.*

In 2010, 1,868 first-time freshmen out of 3,229 took University Experience. If mandatory, University Experience would teach an additional 1,670 students annually. Enrollment in general UE sections is currently limited to 24 students, although this is not the case in major-specific sections. Increasing the seat limit to 30 in general sections will allow the UE program to accommodate these students with 136 sections. With 24 librarians available to teach information literacy, each librarian would teach an average of 6 course sections (each with 3 class periods of information literacy), totaling an average of 18 class periods. This is not an excessive addition to the workload, and would allow for equitable workload distribution.

The faculty of WKU Libraries believes that student learning assessment can best be accomplished by having the instructor of record assign full papers or projects that incorporate library research, as is currently done for students in honors sections and some major-specific UE classes usually write. However, we understand that some instructors want librarian involvement in this aspect of the course. In the alternative, the faculty of WKU Libraries suggests that the annotated bibliography project be supplemented by having students keep a research diary, and by other assignments as appropriate.

In light of the foregoing research and evidence, the Task Force on Universal Information Literacy feels confident in making the following recommendations. These proposals are made by consensus, and have been adopted unanimously by the task force.

7. *WKU Libraries recommends that information literacy instruction be implemented within the context of the University Experience program.* Both programs have similar objectives, and both provide students with necessary tools for academic success. Because both programs are concerned with evaluation and critical thinking, there is a natural fit between information literacy and University Experience.

8. *WKU Libraries recommends that University Experience be made mandatory for all first-time first-semester students*. This point is already under discussion in University College and the Provost's Office. University Experience is vital to retention efforts at WKU, and is too important to be left to a later semester. This initiative will increase student persistence and lead to higher graduation rates by improving the academic achievement of first-year students at WKU.

9. *WKU Libraries recommends that University Experience be expanded to three credit hours*. Again, this initiative is already being discussed within University College. Two-credit classes are difficult for students and faculty alike. Some students are hurt by the lack of a 3-credit class, and instructors are not given enough time to meet the learning outcomes of the course.

10. *WKU Libraries recommends that each University Experience course include three class periods of information literacy instruction*. There are a number of dissimilar areas that students must understand in order to be academically successful at WKU. The outcomes can be broadly characterized as falling within four general categories, namely (a) services, units, and physical layout of the libraries; (b) how to use the library's website and its online resources (including academic research databases); (c) how to evaluate materials and resources (critical thinking), including primary vs. secondary and scholarly vs. popular materials; and (d) how to make legal and ethical use of resources. Obtaining these outcomes (some of which cannot even be accomplished within the same building) requires a minimum of three class periods.

11. WKU Libraries recommends that class sizes for University Experience be increased from 24 students to 30 students. The program will have to accommodate almost twice as many students as it does currently. Increasing the class size slightly would allow this process to take place in an orderly fashion without greatly overburdening University Experience or University Libraries faculty.

12. *WKU Libraries recommends that summative student learning assessment consist of a full paper or project*. This is currently done with students in the honors section and in some major-specific sections.

    a. WKU Libraries' faculty believe that a full paper or project—created, assigned, and graded by the instructor of record—is the most appropriate measure of student learning, and that the annotated bibliography project does not challenge students as much as we would like.

    b. In the alternative, the faculty of WKU Libraries suggests that the annotated bibliography project be supplemented by having students keep a research diary, and by other assignments as appropriate (including formative assessment).

Rationale for Information Literacy Instruction[1]

Information literacy skills are important for a variety of reasons. They impact student performance and academic achievement, are associated with beneficial behaviors that improve student persistence, improve critical thinking skills, and prepare life-long learners. Employers consistently ask colleges and universities to place more emphasis on information literacy. In fact, a study by the Association of American Colleges & Universities found that 70% of surveyed employers want to see more teaching of information literacy (Peter D. Hart Research Associates, 2008).

Many recent initiatives emphasize discovery and critical evaluation of relevant information. In Europe, the Bologna Process has dealt with the issue of information competency in postsecondary education (Holiday, 2011). Here in the U.S., the Lumina Foundation has done extensive work on the learning outcomes and competencies that should be obtained by graduates at each degree level. (After all, the competency for an Associate degree holder is—and should be—different from that of a Bachelor's, Master's, or doctoral degree holder.) Lumina's major report, published in 2011, is entitled *Degree Qualifications Profile—Defining Degrees: A New Direction for American Higher Education to be Tested and Developed in Partnership with Faculty, Students, Leaders, and Stakeholders* (2011). The competencies for use of information resources are listed below in table 1-1.

**Table 1-1: Degree Qualification Profiles for Use of Information Resources
at the Associate and Bachelor's Degree Levels**

At the associate level, the student
- Identifies, categorizes, evaluates and cites multiple information resources necessary to engage in projects, papers or performance in his or her program.

At the bachelor's level, the student

- Incorporates multiple information resources presented in different media and/or different languages, in projects, papers, or performances, with citations in forms appropriate to those resources, and evaluates the reliability and comparative worth of competing information resources.

- Explicates the ideal characteristics of current information resources for the execution of projects, papers or performances; accesses those resources with appropriate delimiting terms and syntax; and describes the strategies by which he/she identified and searched for those resources.

Source: Lumina Foundation, 2011, pp. 12-13.

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[1] The Task Force on Universal Information Literacy is composed of the following members: Bryan Carson (chair), John Gottfried, Amanda Hardin, Jonathan Jeffrey, Sara McCaslin, Tammera Race, and Amy Slowik.

Within Kentucky, there are also parallel efforts to define the outcomes of student learning. The 2011 draft revision of Kentucky General Education Transfer Policy and Implementation Guidelines carries the following student learning outcome (under written and oral communication): "Find, analyze, evaluate, and cite pertinent primary and secondary sources, including academic databases, to prepare speeches and written texts" (Kentucky Council on Postsecondary Education, 2011). Kentucky is also using the Lumina Foundation's *Degree Qualifications Profile* by implementing the *Kentucky Tuning Project*. This initiative will develop common learning outcomes and competency outcomes using evidence-based research. The *Kentucky Tuning Project* includes evaluation and critical thinking in its overall competencies, as well as within individual disciplines. For example, the business competencies for "oral and written communication" emphasize finding, analyzing, and citing relevant information (Kentucky Council on Postsecondary Education, 2011b).

Whitmire (2002, p. 119) noted that: "As the twenty-first century wades ever further into the depths of the Information Age, few abilities will become more universally essential to our students' success than that of efficiently locating, evaluating, and using information . . . the group of skills we refer to collectively as Information Literacy. Student use of library resources and services is positively correlated to many effective academic behaviors, including "more student-faculty interactions, active learning, and writing activities. . ." These behaviors, in turn, are associated with gains in student achievement. While there is no direct link between library use and these desired outcomes, this indirect link has been shown in many studies (Terenzini, Pascarella, & Blimling, 1996, p. 155; Braxton, Milem, Sullivan, & Shaw, 2000, p. 572).

A. Definition of Information Literacy

There are several terms that have been used over the years to describe the process of teaching students how to process information and use the library. The term "bibliographic instruction" was popular for many years. Another term that was used was "library skills." This term is still used by the University Experience program. In the 1980s, the early use of computers led to a change in terminology, and "research instruction" became popular. With the advent of the World Wide Web in the mid-1990s, librarians began speaking about "information literacy" as a broader concept that includes information of all formats. Although this White Paper will use the term "information literacy," we intend it to reflect each of these components. Lau (2006, p. 8) provides the following definitions for these terms:

- Information fluency – Capability or mastering of information competencies.
- User education – Global approach to teach information access to users.
- Library instruction – Focuses on library skills.
- Bibliographic instruction – User training on information search and retrieval.
- Information competencies – Compound skills and goals of information literacy.

- Information skills – Focuses on information abilities.
- Development of information skills – Process of facilitating information skills.

There are many ways in which information literacy is defined. According to the Association of College and Research Libraries, individuals "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (ACRL, 2000/2004, p. 2). This definition is endorsed by the American Association for Higher Education and the Council of Independent Colleges.

The International Federation of Library Associations is now using the term "information competency," which is defined in a somewhat more comprehensive fashion. The IFLA definition reads as follows: "A competent citizen, whether a student, a professional or a worker[,] is able to recognize her/his information needs [and] knows how to locate, identify access, retrieve, evaluate, organize, and use information. To be an information literate person, one has to know how to benefit from the worlds of knowledge, and incorporate the experience of others into one's background" (Lau, 2006, p. 8).

B. The Role of the Library in Fostering Information Literacy

There are a number of studies that document the role of the library in fostering information literate students:

- Instruction in general library skills is directly related to increases in overall level of Information Literacy (Whitehurst, 2010).
- Library Instruction has been shown to make it easier for students to find materials in the library, increasing their confidence as researchers (Zoellner, Samson, & Hines, 2008).
- Library instruction sessions are directly related to the number of research resources students can locate, and the number of citations they use in their academic writing (Hurst & Leonard, 2007).
- The more knowledgeable and confident students become in using library materials, the higher their satisfaction with the library, and with the research experience (Stamatoplos & Mackoy, 1998).
- Library anxiety is a real phenomenon that interferes with use of library resources (Jiao & Onwuegbuzie, 1999). Information literacy is a key intervention in combating library anxiety (Kwon, 2008; Shorten, Wallace, & Crookes, 2001).
- Students who receive library instruction do appreciate the value of that instruction, and they do retain what they have learned (Wong, Chan, & Chu, 2006).
- Offering multiple sessions of library instruction further increases student retention of information and level of comfort with the resources (Gandhi, 2004; Whitehurst, 2010).

Information literacy instruction leads to greater use of library resources or services, which leads in turn to vital behaviors that affect student persistence and critical thinking. These desirable actions are in turn are associated ($p \leq .001$) with positive developmental outcomes and with student intent to persist.

Writing skills are a valued and desired outcome for college graduates (AACU/NLC, 2007). In a survey of corporate employers, The National Commission on Writing found that writing is an

important part of "high-skill, high-wage, professional work." Effective writing is a prerequisite for hiring and promotion, while poor writing may keep candidates from being hired (College Board, 2004, p. 19; Gray, Emerson, & MacKay, 2005). Library use is positively associated ($p \leq$ .001) with engaged writing behaviors such as using a dictionary or thesaurus, revising drafts, paying attention to grammar, and asking for writing advice (Whitmire, 2002, p. 117).

Using library resources and services is positively correlated with student-faculty interactions, including talking with faculty members, office visits, discussion of papers or projects, and asking for information or assistance with course (Whitmire, 2002, p. 117). This behavior in turn is positively associated with cognitive development measures such as "the ability to comprehend, interpret, or extrapolate; to evaluate materials and methods; and to apply abstractions or principles. . ." (Terenzini, Pascarella, & Blimling, 1996, p. 155).

Library use is positively associated ($p \leq$ .001) with active learning behaviors such as note-taking, outlining, classroom discussion, summarizing points, and integrating ideas from other sources (Whitmire, 2002, p. 117). Using an active learning measure that included factors from the CESQ scales for library experiences, Kuh, Pace, and Vesper (1997) also found that active learning was significantly related (p $\leq$ .005) to gains in student general education and intellectual development. Students who engage in active learning gain more knowledge, view classes as personally rewarding, and have more time for student activities. "Thus, active learning course practices may directly influence social integration and indirectly affect subsequent institutional commitment and student departure decisions" (Braxton, Milem, Sullivan, & Shaw, 2000, p. 572).

The effect of active learning outcomes such as faculty-student interactions cannot be underestimated. Berger and Braxton (1998) found high levels of correlation between faculty-student interactions and student intent to persist. This was statistically significant at the $p \leq$ .001 level overall. Faculty-student interactions were also found to be statistically significant for racial minorities ($p \leq$ .01) and female students ($p \leq$ .001).

The rationale for incorporating Information Literacy into General Education requirements can be best explained by other institutions. Below are examples of how three institutions have incorporated Information Literacy coupled with First Year courses into their General Education requirements and goals. There are many approaches to this incorporation and these institutions are striving to educate students in information literacy and college level research practices.

C. University of North Carolina Wilmington

The University of North Carolina Wilmington has successfully coupled a First Year Experience course with Information Literacy intensive courses to become an important part of this institution's educational goals. The following are the overall institutional UNCW Learning

Goals as they relate to Information Literacy. These goals are achieved through the delivery of a First Year course with an Information Literacy component:

1. Inquiry – Students will practice rigorous, open-minded and imaginative inquiry.
2. Information Literacy – Students will locate and effectively apply information using academic and technological skills.
3. Critical Thinking – Students will use multiple methods and perspectives to critically examine complex problems.
4. Thoughtful Expression – Students will demonstrate an ability to express meaningful ideas in writing (UNCW Learning Goals).

UNCW offers a First Year course to be coupled with a general Information Literacy course. Upon completion, students are then required to complete an Information Literacy course in their major of study. These three courses account for 9 hours of their University Studies requirements. WKU currently offers not only general sections of University Experience with a major Information Literacy component but many colleges, majors and departments also offer a University Experience course that incorporates Information Literacy. Should University Experience become a mandatory course at WKU, Information Literacy instruction and practice will be available to every student.

D. University of Arizona

In 2003, the University of Arizona began incorporating one or more of the ACRL Information Literacy Standards into General Education courses. Specifically, courses designated as Foundations, Tier One and Tier Two classes within the University of Arizona's General Education courses are required to incorporate at least one of the standards into the curriculum of the course, especially if that course's projects require the use of library resources.

In comparison, rationale for such incorporation into a First Year course and a direct correlation to General Education requirements is needed at WKU. An early incorporation of Information Literacy Competency can be attained and introduced to all students should the University Experience course become mandatory (University of Arizona, 2003).

E. Old Dominion University

The mission of the University Libraries' Information Literacy Program is to help individuals learn how to locate, evaluate, and use information effectively through a variety of means and in collaboration with the teaching faculty.

Implementation of an Information Literacy Program at Old Dominion was a direct result of an extensive revision of that institution's General Education Program requirements. The following list shows the objectives of the Old Dominion program:

1. To improve their critical and analytical thinking.
2. To solve problems.
3. To understand how to find, manage, integrate, and communicate knowledge.

F. Overall Rationale for Information Literacy

Students need information literacy skills to be leaders in their chosen fields. Information literacy crosses disciplines; along with reading and writing, it is one of the main tools that students will need to complete college level work, and be successful in their professional careers. Three main objectives emerge from the information literacy program examples described above:

1. Students will be able to locate, evaluate and use information;
2. Students will be able to undertake active inquiry and critically examine problems; and
3. Students will be able to integrate and communicate knowledge.

These are not skills that can be absorbed, but rather need to be taught and practiced. While online delivery has made access easier by removing distance as a barrier, the volume of information and the complexity of its organization have created new challenges for novice information seekers. Add these challenges to those already existing, such as library anxiety and confusion about plagiarism, and guided information literacy becomes a necessity.

The discussion above provides an excellent rationale for making information literacy a campus-wide initiative incorporated within the University Experience program. There are efforts underway within University College to increase the UE 175 class to three credits. There has also been discussion between University College and the Provost's Office about the possibility of making UE 175 mandatory (either within the general education requirements or via some other mechanism). These efforts include suggestions that UE be taken by first-time freshmen during their initial semester of enrollment. The faculty of WKU Libraries enthusiastically supports these initiatives, believing that they will increase student persistence and lead to greater graduation rates by improving the academic achievement of first-year students at WKU.

Given such broad support for the utility of library instruction sessions, it certainly follows that a comprehensive system of effective library instruction for all students would represent a powerful enhancement to the University experience. All first year students would have the opportunity to not only garner the much needed critical thinking abilities offered via UE, but also to be introduced to Information Literacy skills within the context of a classroom setting. In terms of retention and academic success in the first year at WKU, there is no better combination than University Experience and Information Literacy.

Possible Mechanisms for Teaching Information Literacy

Once it is determined that every student should take information literacy training, the mechanism of delivery must be decided. While WKU Libraries teaches over 500 research sessions annually, we believe that there should be one specific course where we can reach all students. Choosing a specific class allows the university to ensure that every student will learn this vital information.

There are several potential places within the curriculum where information literacy instruction could be embedded, and different schools use different models. Indeed, WKU itself has used different methods over time. While there are many variations, the basic models are (a) as a unit within first-year experience programs such as UE 175; (b) as a stand-alone for-credit course; or (c) as a unit within English writing classes. The Task Force considered each of these options, but decided that integration with University Experience provides the best method of delivery.

In 2008, a national study of 110 libraries entitled *College Information Literacy Effort Benchmarks* found that only 5.4% of the sample required a 1 or 2 credit information literacy course for graduation, and just 3.6% required a 3 or more credit course. However, over 23% of the sample required information literacy training integrated into basic writing or composition courses (p. 45).

There are certainly possible classes that could include information literacy, including introductory psychology or sociology classes. Bowling Green Technical College put their library component in the psychology class. Bowling Green State University experimented with introductory sociology, but eventually changed it to English instead. This section will discuss these three models, and will make a recommendation for implementation.

A. Within University Experience Classes

Western Kentucky University is not the only institution to include information literacy instruction within a first-year experience course. This is certainly the newest configuration, since the freshman seminar movement only began to pick up steam in the past 20 years (Boff & Johnson, 2002, p. 277). While not all schools have freshman seminars, information literacy is an important component of those that do. A survey by Boff and Johnson (2002) found that 86% of institutions with first-year experience classes integrate information literacy into their courses.

One reason for the synergy between first-year experience and information literacy is the similarity between their objectives. Both freshman seminars and information literacy

instruction seek to give students the tools necessary to succeed academically. Both are also concerned with topics such as evaluation and critical thinking. Thus, the two seem to fit naturally together. The University Experience program at WKU provides an example of this similarity of objectives and approaches.

At WKU, UE 175 has many similarities with other freshman classes. At the same time, however, there are also important differences. The course is academically based, while still maintaining the distinction of being a transition and student success course and a means of retention for the entire university. With this blend of purposes, UE is well-placed to help provide many of the basic skills that college students need in order to succeed.

The learning objectives/goals for the UE course are as follows:

1. Introduction to Campus Technology including WKU Webmail, Topnet, and Blackboard;
2. Identifying and developing critical thinking skills;
3. Developing college level Research practices and Information Literacy when conducting research;
4. Exploration of Active Learning practices and how to use them to succeed as a college student;
5. Choosing a Major and Career path that best fits personal goals;
6. Identifying the importance of Diversity both in the educational/professional realm as well as in everyday life; and
7. Exploring the rewards of Campus and Community Engagement and how it can create a well-rounded and employable individual.

The fact that the University Experience course dedicates one of its major learning objectives/goals to the pursuit of developing college level research practices and information literacy is a major reason for including universal information literacy skills within the freshman seminar program. Also, the Information Literacy component of a University Experience course is imperative to achieving objective number 2, "Identifying and developing critical thinking skills."

In the UE courses, a specific critical thinking model is taught to all students. In doing so, the Information Literacy Component is incorporated into this endeavor via the Annotated Bibliography project. This project is embedded into the curriculum of the course in that the research project is tied directly to classroom discussions and assigned readings. Furthermore, students are challenged to apply the critical thinking model when searching for and evaluating information for the research project. Because of this, Information Literacy is a foundational goal of the University Experience course.

The task force believes that University Experience makes a better platform than English 100 for information literacy research instruction. There are several reasons for this belief. Not all students take English 100. First-year students can "test out" of English 100 by taking Advance Placement English or the CLEP Test, or with a high score on the ACT or SAT. This means that a fair percentage of students are not taking English 100. Also, there is no requirement that

students take English 100 in their first term. Those who do not "test out" can delay taking this class until later in the college career. Yet the research and evaluation skills taught by information literacy instruction are needed all throughout college.

Even though English instructors are "highly encourage[d]" to bring their composition classes to the library, the head of the department still believes that University Experience should also include research and library skills. Karen Schneider, the department head, feels that information literacy and library skills instruction mesh well with the mission of the University Experience program. Even if all English 100 classes came to the library, their purpose is very different from that of the UE class, and so the instruction is going to be different. Thus, library visits in English 100 and English 300 supplement rather than replacing the information literacy skills that what students would learn in UE 175 (Karen Schneider, personal communication with Elisabeth Knight, May 9, 2011).

As mentioned above, the Task Force found integration with University Experience to provide the best method of delivery. However, the next two sections will discuss the other possible mechanisms in order to explain this rationale.

B. Stand-Alone For-Credit Course

For many years, WKU had a required 1-credit-hour course on library skills. This class, LME 101, was taught by faculty and graduate assistants in the Library Media Education program from the College of Education. The course received generally positive evaluations from students, and many alumni remember it as a useful introduction to the library. However, in 2000 the class was folded into the then-new Freshman Seminar, which became UE 175.

Many universities have stand-alone classes for information literacy. The most frequently stated rationale is that there is simply too much material to cover in a one-shot instruction session or a unit on library research (Holder, 2010). The University of Baltimore integrated for-credit information literacy classes into learning communities (Johnson, Arendall, Shochet, & Duncan, 2010), while King College (TN) offered their credit-bearing course in combination with English composition (Robertson & Horton, 2010).

An alternative method is to include 1-credit companion classes (similar to a lab section) in which students will learn about discipline-specific resources (Johnson & Gonzales, 2010). The University of Oregon took this approach with a pilot program in 1997, with companion courses for journalism, Women's studies, management, psychology, and the Honors College. The pilot project was considered successful, and expanded it to additional disciplines (Bell & Benedicto, 1998). Other schools have implemented credit-bearing courses for specific majors or disciplines (Wheeler, Vellardita, & Kindschi, 2010; Ellis & Wiegand, 2010). However, both of these methods

are really more appropriate for advanced skills. They do not address the basic needs of first-time freshmen or undecided students. While useful to majors, we cannot recommend this strategy on its own for implementing universal information literacy at WKU.

While there are some advantages to stand-alone classes, there are also disadvantages. First, students are more likely to integrate the knowledge and transfer skills when instruction is given in the context of a class with an assignment (Nerz & Weiner, 2001). Course-integrated instruction emphasizes the importance of the subject over a stand-alone class, and avoids a mentality of "checking off" requirements. This "checking off" problem was seen at WKU during the 20 years that LME 101 was required. Instructors reported a steady group of students over the years who were taking LME 101 in their final semester in order to fulfill the graduation requirement.

Another issue with a stand-alone class is that students are averse to taking 1- or 2-credit courses. In some cases, it leaves the students with less than full-time status. In others, it extends the amount of time students need to graduate. Some students have reported scrambling for an additional credit in their senior year in order to avoid having to stay an additional semester or take an additional 3-credit class. This has been reported by former LME 101 students, in the context of UE 175, and for students in the 1.5-credit-hour grantwriting course offered by the public administration program.

Finally, there is the issue of having enough space in the curriculum for yet another required class. There are already controversies over the number of credit hours devoted to general education. Some departments have proposed that WKU drop its language requirement so that students can take more classes within the major. Regardless of the advantages for teaching a stand-alone class, it just is not with it at this time (especially if UE 175 becomes mandatory).

C. Within English Writing Classes

Because term paper writing skills are taught by the English department, this is a certainly a possible place to include library skills and information literacy. In fact, the English department's Director of Composition "highly encourages" instructors to bring their English 100 and English 300 classes to the library for at least one instruction session.

The *College Information Literacy Effort Benchmarks* study found that "over 23% of the sample required information literacy training integrated into basic writing or composition courses. Nearly 43% of bachelors-granting colleges reported integrating this requirement into basic writing courses, while 22% of community colleges and just over 13% of both masters or doctoral colleges and research universities did so" (p. 45). Yet even when not required, English composition classes schedule library instruction sessions at a very high rate. The Benchmarks

study found that "74% of U.S. respondents sent library science instructors to the college's main required English course" (p. 48).

3

Recommended Learning Outcomes for Information Literacy

It should be emphasized that this report is *not* a lesson plan, or even an outline of one. Lesson planning is an iterative process that requires careful thought and construction. Good practice in lesson planning and instructional design involves three overall stages:

1) What is worthy and requiring of understanding?
2) What is evidence of understanding?
3) What learning experiences and teaching promote understanding, interest and excellence (Wiggins & McTeague, 2000, p. 8)?

The first stage involves determining the desired results. This is commonly referred to as learning outcomes. The second stage involves assessment—what evidence does the student need to show that he or she has learned the material? A lesson plan can only be created once you have the outcomes and student learning assessment have been determined.

This report deals with learning outcomes, and touches on the issue of student assessment. It does not go beyond this to address lesson plans. That is a task for another day.

In 2008, the faculty of WKU Libraries—in conjunction with the University Experience Library Skills Coordinator—adopted overall outcome objectives for major-specific University Experience classes. These outcomes are also appropriate to general UE classes. Of course, each section within the overall outcomes can be broken down into more specific outcomes. The 2008 guidelines were reaffirmed by the Libraries' faculty in 2009 and 2010, again in conjunction with the UE Library Skills Coordinator. The overall outcomes read as follows:

- Students will have a basic understanding of the layout of the library and the various services provided by University Libraries.
- Students will know how to get to the library's homepage, TOPCAT, KenCat, databases, research guides, and TDnet.
- Students will be able to explain and apply the differences between TOPCAT, KenCat, databases, and TDnet, and will know what types of materials are included in each.
- Students will understand and be able to apply principles of evaluation for websites in order to determine the reliability of information and the existence of bias exists.
- Students will understand the differences between popular magazines, scholarly journals, and trade journals, and will be able to apply this knowledge in order to use appropriate materials.
- Students will understand and be able to apply good searching techniques using Boolean search terms.
- Students will understand legal and ethical principles for avoiding plagiarism.

The outcomes listed above can be broadly characterized as falling within four general categories, namely (a) services, units, and physical layout of the libraries; (b) how to use the library's website and its online resources (including academic research databases); (c) how to evaluate materials and resources (critical thinking), including primary vs. secondary and scholarly vs.

popular materials; and (d) how to make legal and ethical use of resources. The subsections below provide a discussion and more specific student outcomes for these vital areas of learning.

A. Learning Outcomes for WKU Libraries' Services, Units, and Physical Layout

The Western Kentucky University Libraries are a wealth of resources and services. However, compared to the average high school library, they can be very overwhelming. While high school libraries may have thousands of books, WKU Libraries has hundreds of thousands of books, three buildings, multiple floors, and a number of different units and collections. In addition, while most high school libraries use the Dewey Decimal System to arrange books on the shelf, WKU uses the Library of Congress Classification System for most of the collection, and the Superintendent of Documents system for government documents. Thus, there are many aspects of our facilities and services that students need to learn. Appendix IV provides an example of assessment proficiencies dealing with library services, units, and physical layout.

This reports contains learning outcomes, rather than lesson plans. The learning outcomes are what the students should take away from their classes. The lesson plans are a roadmap of how to get there. In learning about services, units, and the physical layout of the libraries, there are many different methods that could be used. WKU Libraries currently has an audio tour podcast for MP3 players, as well as a library video. Online tutorials are under construction. Some learning should take place on-site, particularly in the Kentucky Library & Museum. However, the actual mechanism of delivery is beyond the scope of this report. The goal of this report is to discuss the actual learning outcomes and what students at WKU should know about library services, units, and physical layout.

B. Learning Outcomes for the Website and Online Resources

WKU students need to graduate fully prepared to use information technology in the workplace and in modern life. By guiding students through information literacy at WKU, they will have a model they can take outside of the university when they leave. In this complex world of information, WKU can no longer rely on students' picking up information literacy skills on their own without focused guidance.

The use of various computing devices and software to collect, evaluate, and synthesize data is essential for upwardly mobile global citizens. From learning to use websites like Google and Wikipedia appropriately to familiarizing themselves with personal and professional organization devices like Smart Phones, students will find themselves immersed in a data tsunami that they cannot ignore once outside of "The Bubble." The proposed incorporation of information literacy into University Experience will provide all WKU students with a basis for selecting the most appropriate research tools and the understanding to use these tools effectively.

The following learning outcomes for the Libraries' website and online resources are based on ACRL standards (2000/2004) and on the information literacy outcomes of several institutions (WKU Libraries, 2008; John Eugene Derrickson Memorial Library, 2008; Temple University Libraries, 2008; University of Arizona Libraries, 2002).

The information literate student will be able to:

- Compare and contrast the scope of online and print resources.
- Discuss the purpose and scope of online resources at WKU Libraries, and analyze the information and materials contained in:
    - WKU Libraries research guides;
    - Academic research databases, including both subscriptions (EBSCO*host*) and free (Google Scholar);
    - The library catalog (TOPCAT);
    - E-books and E-journals (including TDnet, the E-journal finder);
    - The Kentucky Library & Museum's image catalog (KenCat);
    - WKU Libraries' institutional repository (TopSCHOLAR®); and
    - Free web search engines (i.e., Google).
- Demonstrate how to find libraries and museum information such as hours, programs or events, and contact information for library faculty.
- Access WKU Libraries' online resources from both on and off campus.
- Describe and contrast the values and limitations of free Internet sources and library-subscribed information resources.
- Select the proper format for the research project (print or online).
- Determine the most appropriate electronic resource(s) for finding the necessary information.
- Choose appropriate keywords, synonyms and related terms.
- Investigate and select proper terms and vocabulary specific to the discipline or database.
- Construct a search strategy using appropriate commands (e.g., AND/OR Boolean operators, truncation, and proximity searching).
- Refine database and Internet searches to retrieve relevant and high quality results.

As information professionals with specialized skills and training, 21st century librarians are ideally suited to guide students in achieving these outcomes. Each faculty member at WKU Libraries possesses an advanced degree in library and information science. The librarians have the perfect combined knowledge of WKU Library systems with outside information systems, along with concern for student achievement and university advancement thanks to their faculty status. Partnering with University Experience instructors will allow WKU Library faculty to guide all WKU students through the maze of information available today and tomorrow.

C. Learning Outcomes for Evaluation of Resources (Critical Thinking)

In his first address to the faculty as Provost, Dr. Gordon Emslie noted no one needs to attend college just to gather information because so much information is available online. However, he went on to state that "the true mission of WKU" is to teach students how to interpret and evaluate this information.

As Dr. Emslie pointed out, there is no shortage of information available to even the most casual researcher. Entering a few words or terms in common internet search engines frequently

results in tens of thousands—even millions—of results. Unfortunately, determining which of these resources, if any, has real, substantive value is a very difficult task requiring instruction, guidance and practice.

One of the more important duties of higher education is the teaching of critical thinking skills. Critical thinking is among the most important outcomes desired by society (Rhode, p. 65; Bok, pp. 67-69), and the Association of American Colleges & Universities found that 73% of surveyed employers want to see more teaching of critical thinking and analytic reasoning (Peter D. Hart Research Associates, Inc., 2008).

Fostering critical thinking and evaluation skills in our graduates is one of main arguments for college rather than on-the-job training. Because critical thinking is a pre-requisite to communication and ethical reasoning skills and helps with the transfer of knowledge, it is vital that students learn to reason critically early in their student careers. In his 2006 book *Our Underachieving Colleges*, Derek Bok explained the importance of evaluation and critical thinking with the following statement:

> "Merely accumulating information is of little value. . . . Facts are soon forgotten. . . . Concepts and theories have little value unless one can apply them to new situations. The ability to think critically—to ask pertinent questions, recognize and define problems, identify the arguments on all sides of an issue, search for and use relevant data, and arrive in the end at carefully reasoned judgments—is the indispensable means of making effective use of information and knowledge" (Bok, pp. 109-110).

Once research has been found, it needs to be evaluated by a critical consumer of research. After all, not all sophisticated-looking studies are valid: "Sophisticated mathematical modeling can transform the most trivial subjects or implausible hypotheses into something approaching academic respectability. Even the smallest unrepresentative samples, or other products of armchair empiricism, can be spun into an impressive array of charts, graphs, tables, and methodological appendices" (Rhode, pp. 37-38). In order to separate the wheat from the chaff, it is vital for students to be able to evaluate research.

There are many checklists and guides for students to use when evaluating resources. The most often-cited document is the *Information Literacy Competency Standards for Higher Education*, created by the Association of College and Research Libraries in 2000 (ACRL, 2000/2004). These standards, in turn, were endorsed by the American Association for Higher Education in October 1999 and the Council of Independent Colleges in February 2004 (ACRL, 2000/2004). WKU Libraries based the Information literacy outcomes in part on the ACRL standards (see *Appendix II*).

The Kentucky Council on Postsecondary Education, Department of Education, and Education Professional Standards Board have recognized the importance of evaluating

resources. In 2010, the three bodies issued the *Core Content Standards for English Language Arts & Literacy in History/Social Studies, Science, and Technical Subjects* (KDE/CPE, 2010). These standards include several provisions dealing with the analysis and evaluation of materials. The applicable standards include:

- Reading Standard 7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.
- Reading Standard 8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
- Writing Standard 7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
- Writing Standard 8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
- Writing Standard 9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

A survey of learning outcomes suggested by various authors and entities yielded a total of 22 educational outcomes that college students should to be able to perform or demonstrate within their classes. These outcomes came from the ACRL standards, WKU *Libraries' Statement of Objectives for Research Instruction* (2000; see *Appendix I*), and similar standards from several prominent universities. Naturally, there are many duplications between the lists. However, the list of 22 items can be blended and distilled down to 6 outcomes. These are listed below.

The information literate student can:
1. Distinguish between diverse types of sources—e.g. popular magazines, scholarly magazines, trade journals—and apply this knowledge to choose appropriate materials (UC Berkeley Library; WKU Libraries, 2000).
2. Analyze a topic or information need by determining the nature, scope and requirements of the assignment (O'Donnell, 2010; Head & Eisenberg, 2010).
3. Evaluate and select multiple and diverse sources, including scholarly journal articles, books, authoritative web pages, blogs and wikis, and data collected from the field (O'Donnell, 2010; Head & Eisenberg, 2010).
4. Evaluate and compare the quality of the source in terms of validity, accuracy, authority, thoroughness and timeliness, and intended audience (ACRL, 2000/2004; Kirk, 2011; Ormondroyd, Engle, & Cosgrave, 2011).
5. Compare and contrast primary sources and secondary sources (Ormondroyd, Engle, & Cosgrave, 2011; UC Berkeley Library).
6. Evaluate underlying bias in research sources and their creators (ACRL, 2000/2004; Ormondroyd, Engle, & Cosgrave, 2011).

Students who receive instruction on the aspects of information literacy listed above will thrive in college. These students will begin their college experience with the confidence and skills to find and evaluate information they need in their coursework. But even more significantly, these are skills that they need to excel in their future careers, and that will support them as learners throughout their lifetime.

D. Ethical and Legal Use of Resources

Why is ethical and legal use of resources important? Does it really matter if students cite resources (other than for grading purposes)? In fact, it matters a great deal. Both Derek Bok and Deborah Rhode cite ethical reasoning as being college outcomes desired by society (Rhode, p. 65; Bok, pp. 67-69; Halliday, 2000). This theme was repeated by the AAC&U employer survey, which found that 56% of employers want higher education institutions to "place more emphasis" on ethics and values (Peter D. Hart Research Associates, Inc., 2008).

How do colleges and universities teach ethical reasoning? There are a variety of ways, but the one constant is to teach students about plagiarism and academic integrity. This is seen as an important step in student ethical development. Granitz and Loewry (2006, p. 294) noted that studies have shown that students who engage in academic dishonesty are more likely to later engage in professional dishonesty. Academic dishonesty is a broader category than plagiarism, as it also encompasses cheating, fabrication, and conspiracy to commit dishonest acts (Ercegovac, 2010). However, plagiarism itself includes many types of acts, ranging from unintentional (not citing properly) to full-scale submission of another's work. Thus it is vital for higher education to work with students to avoid plagiarism and to use resources legally and ethically.

A related topic is copyright and the legal use of resources (Ercegovac, 2010). "Until recently, copyright law merited little attention within the academy, but the rapid integration of digital technologies into American life has increased the relevance of this body of law and made necessary a broader understanding of its basis, how it works, and the role it plays in the controversies that are shaping how faculty and students will use technology and information in the future" (Cesarini & Cesarini, 2008, p. 45). The result is that copyright education has entered the list of college outcomes, as it serves to help instill ethical principles in students (Johnson & Simpson, 2005, p. 20).

A synthesis of the literature on plagiarism and copyright education provides the following student outcomes for this topic.

Students will be able to:
- Discuss the purposes of citation, copyright, and fair use.
- Distinguish between quoting, paraphrasing, and plagiarizing.
- Construct citation elements for different types of resources, including journal articles, books, newspapers, book chapters, blogs, dissertations, conference papers, and web sites.
- Recognize and avoid unintentional plagiarism while correctly applying the "common knowledge" rule for items that do not require citation.
- Discuss the relationship between in-text citations (footnotes or endnotes) and relate to the Works Cited or References page.
- Use a standard citation format and provide examples of proper citations in their writing.
- Integrate information into their writing while avoiding overreliance on any single source.

- Compare and contrast the differences between forms of intellectual property, i.e., copyright, trademark, and patent law.
- Distinguish between information that is in the public domain and information that has an owner.
- Determine which type of intellectual property protection applies.
- Discuss the exclusive rights that are reserved for intellectual property owners.
- Apply the four factors of copyright fair use to specific situations.

Discussing intellectual property is not just an esoteric exercise. In fact, "Digital natives have grown up with remixing and sampling. Even when they don't know the technology, students understand the importance of referencing the original while adding a spark of creativity. . ." (Carson, 2011). Teaching students the basics of intellectual property provides a real-world example of the role of citations, and helps students to grasp the concept of plagiarism. The two subjects should be taught hand-in-hand, allowing students to learn both legal and ethical use of information at the same time.

4

Assessment of Student Performance

Student Learning must be assessed in order to determine whether outcomes have been met. In fact, assessment is an integral part of the instructional design process. The principles of 'Backwards Design' dictate that student learning leads to the actual lesson plan (Wiggins & McTighe, 2005). Appendix IV provides an example of assessment proficiencies dealing with library services, units, and physical layout.

The library assignment can't be done in a vacuum. Students must see this as an essential part of the course in order for transfer of learning to take place. It is also vital to avoid the "check-off" mentality, where students simply check off a requirement, then put it out of their mind. Thus, the library assignment must be substantially related to the overall structure, purpose, and topics of the broader course. WKU Libraries faculty believes that this purpose and scope can best be met by having UE instructors assign specific papers or projects that incorporate library research. Honors students and students in major-specific UE classes usually write a full paper or similar project. The faculty also believes that this is the most appropriate measure of student learning.

While the major-specific UE classes have been using student assessments created and graded by the instructor of record, the general UE classes have not. In these sections, the Library Skills Coordinator creates and grades the assignment. This performance assessment consists of a student-created annotated bibliography. The assignment is integrated with the academic content of the general UE sections, and is described below. The purpose of the general UE annotated bibliography assignment is to:

> [P]rovide students with the proper strategy for conducting a research project including choosing a topic, seeking and locating information and producing an annotated bibliography. However, this project will **not** include an actual written paper. Students will gain valuable experience by locating and evaluating information relevant to their chosen topic.

The students select their bibliography focus from a list of approved topics, each of which is related to the textbook used in University Experience classes. (The UE classes all use *Freakonomics* as their textbook.) The standards below come from the annotated bibliography instructions and from the annotated bibliography grading rubric (both 2008 and on file with the Library Skills Coordinator).

Students are expected to:

- Devise search terms and/or phrases relevant to the topic.
- Use these search terms to locate books, scholarly journal articles, reference materials and Internet resources.

- Utilize Topcat, Academic Databases, Reference Materials and the Internet to locate sources.
- Choose and follow correctly a standard citation format (MLA, APA, Chicago Manual Style, etc.).
- State the chosen topic and provide a brief description (1-2 paragraphs) of the topic including general information learned while conducting the research.
- Create an annotated bibliography with a minimum of six sources. Each of the following source examples must be represented in the bibliography:
  - At least one Book;
  - At least one Scholarly Journal Article;
  - At least one Website;
  - At least one Reference Source; and
  - At least two other sources of the student's choice (no Wikipedia entries).
- Evaluate critically the sources in the bibliography.
- Explain why each source was selected and how it is of value for the research topic.
- Write annotations of at least three well constructed sentences, free of punctuation and grammatical errors.

Another possible way of enhancing this assignment is to have students keep a research diary. This method has been used by several major-specific UE classes, including at least two sections of BA 175. The project involves keeping an ongoing record of the library research the student does for their assigned project. The diary includes the sources or databases consulted, keywords or subject headings searched in the entries, how many results were obtained, whether the student revised their search, and which resources were most useful for the research project. The following is a description of the research diary assignment used by the University of North Carolina Ashville (Ramsey Library, 2009).

Information Literacy Assignment:
Keeping a Research Journal
(University of North Carolina Ashville)

Task:
    Keep an ongoing record of the library research you do for an assigned project -- use journal format (see guidelines below). Include the sources or databases consulted, and keywords or subject headings searched in your entries. In the journal, list the sources you find that will be most useful for your research paper or project.

Purpose:
- Provides students an opportunity to practice writing.
- Provides an introduction to how information is organized, and orients students to Ramsey Library.
- Encourages students to think critically about evaluating quality of resources.
- Provides practice using a bibliographic citation style.

To complete this assignment, it will be helpful to review the following information:
- Constructing a search statement
- Finding articles
- Using Google for research
- Links to citing resources

Research Journal Guidelines:

Basically, the journal is just a place to write down how you did the research for your topic. The research journal guidelines provide a structure for recording information. These guidelines only address the basics; however, you may include any other resources or strategies that you used.

A) List your topic and keywords or concepts that describe the topic.

B) Browse through reference books on the topic.
- Search the Library Catalog to find reference works. Reference books might include handbooks and specialized subject encyclopedias or dictionaries, such as the Encyclopedia of Psychology, Dictionary of the History of Ideas, and McGraw Hill Encyclopedia of Science and Technology.
- Is there one source that provides a helpful overview and background on your topic? If so, list it in your journal and explain why it will be useful for your research.

C) Find books in the general collection.
- Search the Library Catalog to find books. List all terms, keywords or subject headings that you used in your searching. Be sure to note the terms or searches that yielded the most results.
- Find the books on the shelves and select any that you think will be most useful. List the title(s) and call number(s) in your journal. . . .

D) Find journal articles.
- [List the database selected.]
- In your journal list all the terms searched, and your search strategy. For example, "I used the combined search women AND entrepreneur to find information about business women in entrepreneurial roles." Which terms or search strategies yielded the best results?
- List bibliographic information for several articles that you might want to use for your research. Be sure to list the titles of any other databases you used in searching.

E) Find web resources.
- Search the web for useful sites. Which search tool(s) did you use (Google, Teoma, etc.)?
- List your search terms and phrases. Cite the best web sites in the journal and tell why they will be useful for your topic.

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Memorial University Libraries Ideas for Library/Information Assignments,
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Another possible way of integrating student learning assessment into a course is for teaching faculty and library faculty to work collaboratively on the assignment. A recent meta-synthesis of qualitative library integration studies (Derakhshan & Singh, 2011) found that the most successful information literacy programs are partnership between teaching faculty and librarians. As research specialists, the library faculty are able to help develop appropriate learning measures. The teaching faculty have the subject knowledge to develop topical learning measures. This is currently being done in the History 175 class (personal conversation with Brian Coutts, 2011). By creating a true collaboration, both faculty and students will benefit. The teaching faculty has an untapped resource available in their library colleagues.

5

Structure of Teaching Universal Information Literacy at WKU

In order to provide universal information literacy instruction at WKU, it is necessary to make some recommendations about the structure of this program. As mentioned above, the current practice of teaching library skills in University Experience is ideal. However, the current practice of using only one class period is not—a conclusion that has been shown by evaluations for UE 175 (McCaslin, 2009).

As indicated in the section on learning outcomes, there are a number of dissimilar areas that students must begin to understand. These outcomes can be handled as a sub-unit in University Experience, but they require more than one 50-minute class. The expansion of University Experience to 3 credit hours will allow for enough time to teach information literacy properly.

In fact, the outcome categories themselves tend to group together in ways that make pedagogical sense. For example, librarians can combine a tour of the Kentucky Library & Museum with the services provided by University Archives and an overview of primary and secondary materials. However, it does not make either practical or pedagogical sense to combine these topics with an overview of the website and electronic resources.

Another objective that takes time out of a 50-minute period is the need to introduce students to Blackboard and to discuss the library assignment. While the faculty of WKU Libraries believes that assignments are best given and graded by the UE instructor of record, we understand that some teachers do want librarian involvement in this aspect of the course. This aspect generally takes around 30 minutes to explain properly.[2]

UE students have regularly expressed frustration because of the single session, and the fact that less than half that time is spent teaching students about the library and its resources. An evaluation of UE students produced by McCaslin (2009) indicated that students wished that they were given more time learning information literacy skills and how to use online resources. It takes time to deal with dissimilar outcome categories, the physical separation between Helm-Cravens Library and the Kentucky Library & Museum, and the need to explain Blackboard and the library assignment.

As noted above, the objectives fall into the four general categories of: (a) services, units, and physical layout of the libraries; (b) how to use the library's website and its online resources; (c) how to evaluate materials and resources (critical thinking), including primary vs. secondary and

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[2] This information comes from Sara McCaslin, the Library Skills Coordinator. It has also been confirmed by Amy Slowik, a member of this task force who has taught UE 175.

scholarly vs. popular materials; and (d) how to make legal and ethical use of resources. These goals encompass introductions to primary materials at the Kentucky Library & Museum, demonstrations of academic research databases, teaching students to use advanced search techniques, and evaluation of spurious research. Also, the sessions must teach students how to use Blackboard, as well as discussing the library assignments. This requires the information literacy unit to have no fewer than three class periods.

While the current UE 175 class is limited by the two-credit format, there is also a possibility for change. WKU Libraries supports the initiative of University College to expand their program to three credit hours. There is simply not enough time in a two-credit course to cover all of the objectives of the UE 175 program adequately. The most that University Experience instructors can do is to scratch the surface. However, an additional 16 hours of classroom time would make a significant difference. Within that increased time, there is room for additional library skills and research instruction. *We therefore recommend that the change to three credit hours for UE 175 include an expanded Information Literacy/Library Skills component of three class periods*.

A. University Experience Class Sections

Table 5-1 below shows the distribution of UE sections in fall 2010. The UE Library Skills Coordinator taught information literacy for all general sections, plus sections for the Gatton Academy and the Commonwealth School (South Campus). Faculty from WKU Libraries taught information literacy for all the subject-specific UE classes, plus the Nursing 102 course.

Table 5-1: University Experience Sections, Fall 2010

	General	**Subject-Specific**	**Gatton Academy**	**Commonwealth School**	**Nursing 102**
# UE Sections	36	28	2	19	2
Library Skills	UE Lib Skills	WKU Libraries	UE Lib Skills	UE Lib Skills	WKU Libraries
# Students	864	611	126	309	84

At this time, enrollment in general UE classes is limited to 24 students (including the Commonwealth School), as are the honors sections of UE 175. This is not the case with the subject-specific University Experience classes, which vary from a low of 9 seats (and 7 students) in Mechanical Engineering to a high of 60 seats (47 students) in Performing Arts. The Gatton Academy also has large class sizes, with two sections holding 66 students each. Table 5-2 shows the distribution of major-specific sections, while Table 5-3 shows the number of students and sections per librarian.

Table 5-2: Major-Specific University Experience Sections, Fall 2010

	Title	**Seats Taken (Remaining)**	**Instructor**	**Librarian**
AG 175	Agriculture	26 (24)	Kessell, J	Smith, C
AMS 175	Architectural & Manuf. Sciences	15 (27)	Mills, G	Carson, B
BA 175	Business	27 (18)	Hall, A	Gottfried, J
BA 175	"	37 (8)	Hall, A	Gottfried, J
BA 175	"	31 (11)	Bolton, D	Gottfried, J
BA 175	"	30 (12)	Schell, J	Gottfried, J
BA 175	"	32 (8)	Jordan, G	Gottfried, J
BA 175	Living Learning Community	23 (1)	Smith, B	Gottfried, J
CE 175	Civil Engineering	9 (3)	Gallagher, R	Smith, C
CE 175	"	11 (1)	Gallagher, R	Smith, C
CHHS 175	Health & Human Services	25 (0)	Hopper, M	Watwood, C
CHHS 175	"	30 (0)	Sherwood, S	Forrest, D
CHHS 175	"	21 (-1)	Hey, D	Watwood, C
CHHS 175	"	29 (1)	Hey, D	Watwood, C
CHHS 175	"	29 (1)	Hey, D	Watwood, C
CHHS 175	"	29 (1)	Wininger, A	Watwood, C
CHHS 175	"	29 (1)	Wininger, A	Watwood, C
CHHS 175	"	30 (0)	Hazlett, S	Watwood, C
CHHS 175	"	10 (15)	Forsyth, S	Watwood, C
EDU 175	Education	13 (12)	Fryman, E	Spencer, R
EE 175	Electrical Engineering	10 (4)	Cambron, M	Smith, C
EE 175	"	11 (9)	Cambron, M	Smith, C
GEOG 175	Geography & Geology	19 (1)	Goodrich, G	Carson, B; Knight, E
HIST 175	History	12 (11)	Trafton, P	Coutts, B
ME 175	Mechanical Engineering	7 (2)	Schmaltz, K	Smith, C
ME 175	"	7 (2)	Schmaltz, K	Smith, C
NURS 102	Introduction to Nursing	51 (9)	Bennett, M	Watwood, C
NURS 102	"	37 (23)	Bormann, L	Watwood, C
PERF 175	Performing Arts UE	47 (13)	Brown, J	Baker, T

Table 5-3: Major-Specific Distribution by Librarian

Librarian	**# Students**	**# Sections**
Baker	47	1
Carson	34	2
Coutts	12	1
Forrest	30	1
Gottfried	180	6
Knight	19	1
Smith	96	7
Spencer	13	1
Watwood	265	10
TOTAL	**696**	**30**

If University Experience becomes mandatory for all first-time first-year students, the number of general sections will increase greatly. Unless additional majors create subject-specific courses, this number will probably remain the same or only increase gradually. In 2010, 1,868 first-time freshmen out of 3,229 took a University Experience class. Assuming that WKU continues to have roughly the same number of first-time first-year students annually, that means that we would need space for an additional 1,670 students annually, mostly in general main-campus sections. Instead of teaching 864 students on main campus, the UE program would teach approximately 2,534 general-section students.

By increasing the seat limit to 30 in general sections, the UE program could accommodate these students by increasing the number of main-campus general sections from 36 to 85. Adding major-specific sections, Commonwealth School, Gatton Academy, and Nursing 102, this would yield 136 sections necessary to teach the students.

B. Workload Distribution

With 136 sections, the question of equitable workload distribution must be addressed. Table 5-4 shows how many librarians are available to teach information literacy skills. There are 24 librarians. If each librarian teaches an average of 6 course sections, it would take care of the students. With each course section meeting three times, it means that each librarian would be able to meet an average of 18 class periods. This is not an excessive addition to the workload, and would allow for equitable distribution.

Table 5-4: Librarians Available for Information Literacy

Department	Number
University Experience Library Skills Coordinator:	1
Department of Library Public Service:	15
Department of Library Special Collections:	6
Department of Library Technical Services:	2
Total	24

Using faculty in the Kentucky Museum and using more faculty members from the Department of Library Technical Services may reduce the workload distribution even further. There is also a possibility of using graduate assistants who are studying Library Media Education. This was done during the days when LME 101 was a stand-alone class. However, even with just a minimum number of librarians from Technical Services, the workload distribution is reasonable and can be accomodated.

6

Recommendations and Implications

There are three overall goals for the information literacy program at WKU, namely: (1) students will be able to locate, evaluate and use information; (2) students will be able to undertake active inquiry and critically examine problems; and (3) students will be able to integrate and communicate knowledge. In light of the foregoing research and evidence, the Task Force on Universal Information Literacy feels confident in making the following recommendations. These proposals are made by consensus, and have been adopted unanimously by the task force.

1. *WKU Libraries recommends that information literacy instruction be implemented within the context of the University Experience program.* Both programs have similar objectives, and both provide students with necessary tools for academic success. Because both programs are concerned with evaluation and critical thinking, there is a natural fit between information literacy and University Experience.

2. *WKU Libraries recommends that University Experience be made mandatory for all first-time first-semester students.* This point is already under discussion in University College and the Provost's Office. University Experience is vital to retention efforts at WKU, and is too important to be left to a later semester. This initiative will help to increase student persistence and lead to greater graduation rates by improving the academic achievement of first-year students at WKU.

3. *WKU Libraries recommends that University Experience be expanded to three credit hours.* Again, this initiative is already being discussed within University College. Two-credit classes are difficult for students and faculty alike. Some students are hurt by the lack of a 3-credit class, and instructors are not given enough time to meet the learning outcomes of the course.

4. *WKU Libraries recommends that each University Experience course include three class periods of information literacy instruction.* There are a number of dissimilar areas that students must understand in order to be academically successful at WKU. The outcomes can be broadly characterized as falling within four general categories, namely (a) services, units, and physical layout of the libraries; (b) how to use the library's website and its online resources (including academic research databases); (c) how to evaluate materials and resources (critical thinking), including primary vs. secondary and scholarly vs. popular materials; and (d) how to make legal and ethical use of resources. Obtaining these outcomes (some of which cannot even be accomplished within the same building) requires a minimum of three class periods.

5. WKU Libraries recommends that class sizes for University Experience be increased from 24 students to 30 students. The program will have to accommodate almost twice as many students as it does currently. Increasing the class size slightly would allow this process to take place in an orderly fashion without greatly overburdening University Experience or University Libraries faculty.

6. *WKU Libraries recommends that summative student learning assessment consist of a full paper or project.* This is currently done with students in the honors section and in some major-specific sections.

a. WKU Libraries' faculty believe that a full paper or project—created, assigned, and graded by the instructor of record—is the most appropriate measure of student learning, and that the annotated bibliography project does not challenge students as much as we would like.

b. In the alternative, the faculty of WKU Libraries suggests that the annotated bibliography project be supplemented by having students keep a research diary, and by other assignments as appropriate (including formative assessment).

Appendix I

Statement of Objectives for Research
Instruction at Western Kentucky University[3]

The Western Kentucky University Libraries are the primary means through which students and faculty gain access to the storehouse of organized knowledge. Thus, the libraries perform a unique and indispensable function in the educational process. The role of library instruction at Western Kentucky University is not only to provide students with the specific skills needed to complete assignments, but also to prepare individuals to make effective life-long use of information, information sources, and information systems.

Research Instruction takes place in many ways, using a variety of teaching methods. Instruction may include, but is not limited to: advising individuals at reference desks, in-depth research consultations, individualized instruction, the use of electronic or print instruction aids, or group instruction in traditional or electronic classroom settings.

Upon completion of research instruction, students will have achieved the following objectives:

1) Students will know how to construct an approach or strategy appropriate to their discipline that will assist them in finding desired information.
2) Students will know the major sources in their discipline, both print and electronic. These sources include encyclopedias, handbooks, indexes, abstracts, and major works, regardless of format. Students will know the major databases and/or Web sites in their fields, and will understand how to search these electronic resources. Students will also understand the limitations of electronic resources, when databases are appropriate, and when print resources are appropriate.
3) Students will understand and be able to apply the concept of Boolean logic in searching for information. Students will know how to use appropriate Boolean connectors, proximity connectors, and truncation. Students will understand key word searching and will know when key word searching may be appropriate.
4) When relevant to the discipline, students will understand that some sources use controlled vocabulary and that there may be printed or online lists or thesauri which aid in the identification of these access points. Students will recognize the relationship of broader terms, narrower terms, and related terms.
5) Students will be able to recognize and apply review processes to determine whether their information source should be accepted as credible. The students will understand and recognize:
   a. The importance of evaluating the author's credentials.
   b. The importance of evaluating the timeliness of the information.
   c. The importance of the publisher's reputation on the usefulness of the source.
   d. The purpose of the author in presenting ideas, opinions, or research may in part determine the usefulness of the source.
   e. The amount and type of documentation used may affect the value of a source.
   f. The importance of the individual's or group's credentials. The student will be able to evaluate this information to determine the source's credibility in relation to the topic.

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[3] Created March 31, 2000; revised July 2008.

g. The teaching of computer research and information literacy skills is critical to our students' success. The abilities to use computers effectively and to do research are the most important skills that employers require in the 21st Century.[4]

Western Kentucky University Libraries & Kentucky Museum has a strong research instruction program, backed by comprehensive reference and periodicals services, to enable learning. Our research instruction not only provides students with the specific skills needed to complete assignments, but also prepares individuals to make effective lifelong use of information, information sources, and information systems. The teaching of computer research and information literacy skills is critical to our students' success.

Western Kentucky University Libraries & Kentucky Museum complies with the most recent *Association of College and Research Libraries (ACRL) Standards &* Guidelines for libraries at colleges and universities granting Bachelor's and Master's degrees. The Libraries' research instruction program fulfills the University teaching mission, and requires the learner to use critical thinking skills, using varied and discipline-specific research instruction. Research instruction is available for all Western students, including those at the Community College. Instructional sessions are available at Helm-Cravens Library, the Kentucky Library (Special Collections), the Educational Resources Center, and the Glasgow campus.

Our Research Instruction classes are taught by professional librarians who are specialists and who have a degree related to the field being covered. The librarians utilize study guides, hands-on computer training on academic research databases, and discussion of relevant print materials for group instruction in information searches. Research instruction includes undergraduate and graduate courses, first year seminars, and community presentations.

Library tours give a brief orientation of the Western Kentucky University Libraries & Kentucky Museum. We also have available a printed *Self-Directed Tour Through WKU Libraries*, a *Library Audio Tour* which is available for checkout from the Circulation Desk, and our *Library Video Tour*, which is available online with streaming video.

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[4] Reference: Association of College & Research Libraries--Guidelines for Instruction Programs in Academic Libraries (Feb. 1997) and Model Statement of Objectives for Academic Bibliographic Instruction (Feb. 1987).

Appendix II

WKU Libraries Information Literacy Curriculum Outcomes[5]

The Big Ideas
- The institution has an abiding concern for the growth and development of their students.
  - This parallels a "culture of enforced student success."
- Every student is at risk of not succeeding.
  - Students who don't use the library are at risk academically.
- But every student has the ability to succeed.
  - Information literacy is like a rope bridge over a chasm. Information literacy is the bridge that gets students safely to the other side.
- "Students who frequently use library resources are also more likely to work harder . . . to meet a faculty member's expectations" (Kuh & Gonyea, 2003, p. 267).
- Students perceive that the institution values them, either as individuals or as members of a group.
  - Students perceive they are respected as individuals and are treated equitably.
    - The institution's actions and decisions are compatible with espoused values and mission, as observed through institutional integrity and the behavior of librarians, teaching faculty, administrators, and staff.
- Library anxiety is a barrier that prevents students from using the library as much as they could or should.
  - Library anxiety refers to an uncomfortable feeling or emotional disposition that is experienced when students are utilizing the library or contemplating its use (Mellon, 1986).
  - 75 per cent to 85 per cent of undergraduate students described their initial library research experiences in terms of anxiety (Mellon, 1986).
- Feelings of anxiety stem from either the relative size of the library, a lack of knowledge about the location of materials, equipment, and resources of the library, how to initiate library research, or how to proceed with a library search (Jiao & Onwuegbuzie, 1999, p. 278).
  - Once in the library, these [anxious] students . . . may overlook maps and signs or misinterpret directions and cues, refrain from asking for help, or give up their search relatively quickly.
  - These same students often perceive that they are the only ones who do not know how to use the library and who lack library skills.
  - Their perceptions culminate in shame, concealment, and subsequent avoidance behaviours . . . [They] feel that other students are adept at using the library, while they alone are inept. Their incompetence is a source of embarrassment and consequently should be kept hidden. They feel that asking questions only reveals their ignorance (Jiao & Onwuegbuzie, 1999, pp. 278-279).
- Library information literacy skills form an important piece of human and cultural capital by creating lifelong learners who will use these skills in the workplace.
- Cultural capital also includes a component of public service.
- Academic work is built on a foundation of ethical use of the prior work of others which has been properly documented and cited.

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[5] This document was created using the Backwards Design model (Wiggins & McTighe, 2005) by the faculty of WKU Libraries in conjunction with the Library Skills Coordinator for University Experience. It was approved in July 2008, and was reaffirmed in July 2009 and November 2010.

Essential Questions
- What must students know about information literacy in order to be academically successful in college?
- How can the library and museum we show students that we care about their success in college?
- What do we need to do in order to prevent, minimize, or combat library anxiety?
- How do we foster lifelong learning and cultural capital?
- How can students learn critical thinking and evaluation skills?
- How can students integrate and transfer information literacy skills to a variety of class and work settings?
- How can we instill values of the virtue of public service and student engagement?
- What must students know in order to be legal and ethical information consumers while avoiding plagiarism?

Outcome Objectives
- Students will have a basic understanding of the layout of the library and the various services provided by University Libraries.
- Students will know how to get to the library's homepage, TOPCAT, KenCat, academic research databases, research guides, and TDnet.
- Students will be able to explain and apply the differences between TOPCAT, KenCat, academic research databases, and TDnet, and will know what types of materials are included in each.
- Students will understand and be able to apply principles of evaluation for websites in order to determine the reliability of information and the existence of bias exists.
- Students will understand the differences between popular magazines, scholarly journals, and trade journals, and will be able to apply this knowledge in order to use appropriate materials.
- Students will understand and be able to apply good searching techniques using Boolean search terms.
- Students will understand legal and ethical principles for avoiding plagiarism.

Appendix III

ACRL Standards Addressed by
WKU Libraries Information Literacy Outcomes

1. The information literate student determines the nature and extent of the information needed.

> **1.1.** The information literate student defines and articulates the need for information.

>> **1.1b.** Explores general information sources to increase familiarity with the topic

>> **1.1c.** Identifies key concepts and terms that describe the information need

> **1.2.** The information literate student identifies a variety of types and formats of potential sources for information.

>> **1.2a.** Knows how information is formally and informally produced, organized, and disseminated

>> **1.2b.** Recognizes that knowledge can be organized into disciplines that influence the way information is accessed.

>> **1.2c.** Identifies the value and differences of potential resources in a variety of formats (e.g., multimedia, database, website, data set, audio/visual, book)

>> **1.2d.** Identifies the purpose and audience of potential resources (e.g., popular vs. scholarly, current vs. historical)

>> **1.2e.** Differentiates between primary and secondary sources, recognizing how their use and importance vary with each discipline.

>> **1.2f.** Realizes that information may need to be constructed with raw data from primary

2. The information literate student accesses needed information effectively and efficiently.

> **2.1.** The information literate student selects the most appropriate investigative methods or information retrieval systems for accessing the needed information.

>> **2.1c.** Investigates the scope, content, and organization of information retrieval systems.

>> **2.1d.** Selects efficient and effective approaches for accessing the information needed from the investigative method or information retrieval system

> **2.2.** The information literate student constructs and implements effectively-designed search strategies.

>> **2.2a.** Develops a research plan appropriate to the investigative method

>> **2.2b.** Identifies keywords, synonyms and related terms for the information needed

>> **2.2c.** Selects controlled vocabulary specific to the discipline or information retrieval source.

>> **2.2d.** Constructs a search strategy using appropriate commands for the information retrieval system selected (e.g., Boolean operators, truncation, and proximity for search engines; internal organizers such as indexes for books).

>> **2.2e.** Implements the search strategy in various information retrieval systems using different user interfaces and search engines, with different command languages, protocols, and search parameters.

2.2f. Implements the search using investigative protocols appropriate to the discipline.

2.3. The information literate student retrieves information online or in person using a variety of methods.

2.3a. Uses various search systems to retrieve information in a variety of formats.

2.3b. Uses various classification schemes and other systems (e.g., call number systems or indexes) to locate information resources within the library or to identify specific sites for physical exploration.

2.3c. Uses specialized online or in person services available at the institution to retrieve information needed (e.g., interlibrary loan/document delivery, professional associations, institutional research offices, community resources, experts and practitioners).

2.3d. Uses surveys, letters, interviews, and other forms of inquiry to retrieve primary information.

2.4. The information literate student refines the search strategy if necessary.

2.4a. Assesses the quantity, quality, and relevance of the search results to determine whether alternative information retrieval systems or investigative methods should be utilized.

2.4b. Identifies gaps in the information retrieved and determines if the search strategy should be revised.

2.4c. Repeats the search using the revised strategy as necessary.

2.4 The information literate student extracts, records, and manages the information and its sources.

2.4c. Differentiates between the types of sources cited and understands the elements and correct syntax of a citation for a wide range of resources.

2.4d. Records all pertinent citation information for future reference.

3. The information literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.

3.2. The information literate student articulates and applies initial criteria for evaluating both the information and its sources.

3.2a. Examines and compares information from various sources in order to evaluate reliability, validity, accuracy, authority, timeliness, and point of view or bias.

3.2c. Recognizes prejudice, deception, or manipulation.

3.2d Recognizes the cultural, physical, or other context within which the information was created and understands the impact of context on interpreting the information.

3.4. The information literate student compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.

3.4e. Determines probable accuracy by questioning the source of the data, the limitations of the information gathering tools or strategies, and the reasonableness of the conclusions.

3.4g. Selects information that provides evidence for the topic.

3.5. The information literate student determines whether the new knowledge has an impact on the individual's value system and takes steps to reconcile differences.

    3.5a. Investigates differing viewpoints encountered in the literature.

    3.5b. Determines whether to incorporate or reject viewpoints encountered.

3.7. The information literate student determines whether the initial query should be revised.

    3.7a. Determines if original information need has been satisfied or if additional information is needed.

    3.7b. Reviews search strategy and incorporates additional concepts as necessary.

    3.7c. Reviews information retrieval sources used and expands to include others as needed.

5. The information literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

    5.1. The information literate student understands many of the ethical, legal and socio-economic issues surrounding information and information technology.

        5.1b. Identifies and discusses issues related to free vs. fee-based access to information.

    5.2. The information literate student follows laws, regulations, institutional policies, and etiquette related to the access and use of information resources.

        5.2f. Demonstrates an understanding of what constitutes plagiarism and does not represent work attributable to others as his/her own.

    5.3. The information literate student acknowledges the use of information sources in communicating the product or performance.

        5.3a. Selects an appropriate documentation style and uses it consistently to cite sources.

        5.3b. Posts permission granted notices, as needed, for copyrighted material.

Appendix IV

Example of Learning Proficiencies for Assessment

This report has focused at the broad level of learning outcomes, and has not addressed lesson plans. However, between the objectives and the learning plan is an intermediate stage, the assessment layer. In order to adequately assess, it is vital to have an understanding of what a proficient student must perform or demonstrate. While still wrapped in the terms of the learning outcomes, assessment proficiencies require more specificity. The following list is an example of assessment proficiencies dealing with library services, units, and physical layout.

Proficient students will be able to:

- Differentiate between and explain the various WKU Libraries units and locations, and distinguish which types of materials are located in each
    - o Differentiate between materials that can be borrowed and materials that cannot be borrowed.
- Evaluate when to use specific library units or locations.
- Analyze and explain when to use print materials, microforms, manuscripts, artifacts, or online resources.
- Comprehend and discuss where to go to get help with research and using WKU libraries.
    - o Contrast the services offered by each library location and unit, e.g., reference services, museum tours, circulating laptops, listening and viewing equipment, the Writing Center, etc.
    - o Summarize the in-depth "personal librarian" service (research assistance by appointment).
    - o Explain how to use interlibrary loan
    - o Describe how and where to find items on reserve, both in print and online.

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