

UMBC Information Literacy Survey – 2003 Executive Summary

**Prepared by the
UMBC Information Literacy Task Force
AOK Library & Gallery**

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Executive Summary

Prepared by the UMBC Information Literacy Task Force¹

Introduction

The purpose of this report is to share key data from the UMBC Information Literacy Survey (UMBC Survey). Subsequent reports will be issued for those academic departments with significant populations participating in the study: Biology and English. A report will not be issued for Computer Science and Electrical Engineering, History, or Psychology. Only eight students logged into my.UMBC.edu and indicated their department as Computer Science and Electrical Engineering, however, only 4 students responded to questions in the survey. Table 1 shows the number of actual students who began the survey for each department. These numbers do not represent the number of students who actually completed the survey.

If a participating faculty member is interested in the results for his or her class, the UMBC Information Literacy Task Force (Task Force) will prepare a report upon request. Executive Summaries for Biology and English will be released on Friday, November 14th. The complete findings will be posted on the Information Literacy Web site on Monday, December 1st, 2003.

Brown Bags to discuss the survey findings will be held on Tuesday, November 18th, from 12:00 to 1:00 pm, and Monday, November 24th from 1:00 to 2:00 pm, in the A.O.K. Library & Gallery, 3rd floor, Administration Suite, conference room.

Methodology

In order to determine baseline information literacy levels of incoming UMBC students (freshmen and transfer), the Task Force identified those academic departments with a history of working with the library as targets for the survey. Once those departments had been identified, the head of reference and the library director requested an audience with department chairs to request support for the survey and permission to approach the faculty members teaching required core courses. Faculty members were carbon copied on the follow-up emails sent to chairs and department heads in April 2003. In August 2003, faculty members were contacted directly via email. They were provided with a letter explaining the request to support the survey effort and asked to encourage their students to participate. Faculty members also received a copy of a consent letter to be shared with students explaining the survey. Task Force members made themselves

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available to visit classrooms upon request. Faculty members received an email update on September 15th with a roster of the unique user id's of those students who had logged in to take the survey and indicated they were taking it for a particular course. This email also reminded faculty members to encourage students to take the survey. A final roster of those who had completed the survey was sent to each participating faculty member at the end of the survey after September 30th.

Defining Information Literacy and Assessment Goals

Information literacy is defined as the ability to access, evaluate, and use information from a variety of sources. The Task Force is developing and implementing an information literacy program in the context of outcomes assessment. A significant part of program development is ascertaining baseline levels of information literacy. The goals of this assessment were:

- To gather baseline data on information literacy skills of UMBC students
- To use the data gathered to assist in the development of an information literacy program for students, faculty, and staff at UMBC

Background

The Task Force spent the spring and summer of 2002 developing a 51-item survey based, primarily, on information literacy standards developed by the Association of College and Research Libraries (ACRL). Additional elements such as Relationship with Faculty and various Demographic questions were added to complete the survey. The ACRL Standards posit that an information literate student:

- Determines the nature and extent of the information need;
- Accesses needed information effectively and efficiently;
- Evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system;
- Uses information effectively to accomplish a specific purpose; and
- Understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.²

The survey was piloted in spring 2003 to students employed at the UMBC Library. Pilot survey results determined that the survey would take approximately 35 to 40 minutes to complete. In Fall 2003, the survey was deployed in five academic departments on the UMBC campus: Biology, Computer Science and Engineering, English, History, and Psychology. Freshmen and transfer students enrolled in required

² Association of College and Research Libraries, "Information Literacy Competency Standards for Higher Education: Standards, Performance Indicators, and Outcomes" (on-line)
<http://www.ala.org/acrl/ilstandardlo.html> (Accessed 02/04/02).

and other targeted courses were identified as the target population. The average time for completing the survey decreased from the pilot to approximately 20 minutes.

Data Analysis

Table 1 shows the pool for the selected population and the number of participants who actually took the survey and indicated a department and/or course preference. All of the students who began the survey did not complete it. Approximately one third of the way through, the number of responses to questions decreased by about 50%. Thus, with the exception of the Demographic section, each of the percentages reported in this document will be based on the number of students who actually responded to the individual questions, and not the total number who completed the entire survey. In addition, since some questions allowed students to select more than one response, some results will be reported based on the number of students responding to a particular question.

Table 1.

Department	# of Courses	# of Sections	# Enrolled	# Took Survey
Biology	2	13	484	151 (31.2%)
Computer Science	2	8	258	8 (3.1%)
English	5	38	701	55 (7.85%)
History	4	13	618	23 (3.72%)
Psychology	3	21	1,286	25 (1.94%)
Total	16	93	3,347	262 (7.83%)

Some of the survey findings confirmed the Task Force’s hypotheses on UMBC students. The majority of students responding to the survey (57%) indicated that they “first learned to use the library” in primary and secondary school. Nearly 50% of those learned in grades K-8. These findings are consistent with published research that most people learn to use the library early in life, and use that same skill set throughout their academic career. A little more than 20% reported they first learned “to use the library on their own,” and fewer than 20% learned to “use the library at the public library.” Very few of those surveyed (2.56%) reported they “first learned to use the library in college.”

Other findings were more surprising. For example, when asked about the importance of learning more about the library, more than 75% of those responding indicated that it was “very important” or “important.” Also surprising were the findings indicating their experiences using libraries and using the Internet. Only 25% selected “Whenever I use the library, I find what I want,” and 66% reported, “I can usually find what I want, but there are frustrations.” More surprisingly, less than 40% selected “Whenever I use the Internet, I find what I want.” Nearly 55% admitted, “I can usually find what I want, but there are frustrations.” Very few reported “The Internet is frustrating; I find it difficult to find the information I need (.43%),” and, “I generally avoid the Internet (6.8%).”

When asked “What do you generally use libraries for?” 184 students reported that they use libraries to “check out library books.” One hundred and fifty students reported they use libraries to “search databases for articles,” 127 use them to “search the Internet,” and 100 use them to “check out items on reserve.” Less than 100 students reported using libraries to “read e-mail/chat rooms/IM” (69), “use word processing/spreadsheets/database programs” (67), “meet friends” (48), and “sleep” (23). Twenty-eight students submitted text responses and reported using libraries to study (in groups, in a quiet place, and for exams).

When asked how they found out about the library’s Web site, 33 students reported they did not know the library had a Web site. One hundred students reported they found out from their teaching assistants and professors and 104 found it on their own. Eighteen students found out from their friends and colleagues.

On that same note, when asked about the frequency with which they use the Library’s Web site to complete course assignments, nearly 50% indicated that they “don’t use the library’s Web site to complete assignments;” and 44% indicated that they “used it to complete some assignments.” These responses are consistent with those which indicate that approximately one half of the UMBC faculty who have come in contact with students participating in the survey model good library behavior. For additional findings in this area, see the Relationship with Faculty section (p. 20).

Research Questions

The assessment was undertaken, in part, to answer the following research questions:

1. What are the attitudes of college-level students about Christina Doyle’s³ information literacy skills? Table 2 shows the eight skills students were asked to respond to:

Table 2.

Formulating questions based on information needs
Identifying potential sources of information
Developing successful search strategies
Accessing sources of information, including computer-based technologies
Evaluating information
Organizing information for practical application
Integrating new information into an existing body of knowledge
Using information in critical thinking and problem solving

- This was the first question on the survey and 312 students responded by indicating their comfort levels with the eight information literacy skills.

³ Christine S. Doyle. 1992. Development of a model of information literacy outcome measures within National Education Goals of 1990. Ph.D. diss., Northern Arizona University.

Overall, students at UMBC report positive attitudes toward the information literacy skills listed in the survey.

- Very few students reported being ‘uncomfortable’ or ‘very uncomfortable’ with any of the skills. In terms of feeling ‘comfortable,’ responses were reported ranging from 46% to 58% for each of the 8 skills. Nearly 25% of those responding indicated that they were ‘very comfortable’ with each of the skills, with the exception of #7—“Integrating new information into an existing body of knowledge,” which received 22%.

2. Do [UMBC] students who self-report a high level of confidence with information literacy skills perform well when responding to questions which represent those skills?

- The Task Force found that in general, students who self-report high levels of confidence with information literacy skills do not perform well when responding to questions which represent those skills.

3. To what extent do [UMBC] students tend to overestimate their information literacy confidence levels?

- The Task Force found that the attitudes of UMBC students about information literacy skills are consistent with previously published research. Students consistently reported significantly positive levels of confidence with Doyle’s information literacy skills; however, when those responses were compared with those from questions requiring students to perform or demonstrate knowledge of these skills, the responses were not consistent.

4. To what extent are [UMBC] students unable to identify the basic elements of a bibliographic citation?

- The Task Force found that in general, students at UMBC are able to correctly identify the parts of a bibliographic citation. Students were asked to identify the parts of a citation taken from a journal index. Significant percentages ranging from 84% (page numbers) to 98.5% (date) were reported for all elements. Of note, 15% of those participating in this question (n=266), incorrectly identified the “volume of journal” and “page numbers.”

5. To what extent are [UMBC] students aware of what constitutes plagiarism?

- The Task Force found that in response to questions developed to determine perceptions of plagiarism, UMBC students appear to be aware of what constitutes plagiarism.

6. To what extent are [UMBC] students familiar with the concept of Fair Use?

- Although 91% of those participating indicated that Plagiarism was not the same thing as Fair Use policy, the Task Force found that students at UMBC are, in general, unfamiliar with the concept of Fair Use.
- Students were given a definition of fair use and asked to respond whether or not they could legally use the information under the circumstances presented.
 - 62% reported that they could legally use unrelated background music during a presentation.
 - Only slightly more than 50% of those responding indicated that they could legally “Make a copy of a book chapter placed on Reserve in the Library by your professor, and take it home to read.” Twenty percent selected ‘don’t know,’ and 22% selected “no.”
 - Of note, more than 70% each reported that they could legally use a topically related audio or video clip as part of a class presentation on talk shows; and 76% reported that they could not legally directly quote, without citing a source, a paragraph from an article for their research paper.

7. To what extent are [UMBC] students familiar with the concept of copyright?

- Students at UMBC are generally not familiar with the concept of copyright, with nearly 60% reporting that they could legally use pictures from the Internet, and pictures they scanned in from a magazine on their Web sites without permission. Although nearly 40% of those responding reported that they could legally use the text of the *Homeland Security Act* on their Web site without permission, it is not clear whether they understood the concept of “public domain” since it was not specifically defined or mentioned in the survey.

8. Do [UMBC] students who self-report a high level of confidence with computers perform well when responding to questions which represent information literacy skills?⁴

- Twenty-two percent of those responding (n=211) reported their experience with library databases as “very comfortable.” Less than 50% (48.34%) selected “comfortable;” less than 25% (24.17%) reported being “undecided/neutral” and less than 6% reported being “uncomfortable” or “very uncomfortable.”
- The Task Force also found that students participating in the survey reported that they use computers for a variety of tasks. Eighty-three percent admitted they had used computers in libraries. When asked to describe their experience

⁴ The UMBC Survey asked students if they had used computers in libraries and asked about their comfort level with library computer databases. No questions were asked about their comfort level with computers in general.

with computers, 231 students reported they used computers for “E-mail/chat rooms/IM; 229 for “Internet/World Wide Web;” 221 for “Word processing/spreadsheets;” and 187 each for “Searching databases,” and “Games/entertainment.” Nearly a third of those responding (82) reported using computers for “Work-related/telecommuting;” and 8 students submitted text responses in the Other box including, “everything,” “living life in a way that makes waking up fulfilling,” “math lab,” “on-line courses,” and “programming.”

9. To what extent do [UMBC] faculty model good library use behavior?

- In general, the Task Force found that about one half of the faculty members who have been exposed to those participating in the survey, model good library use behavior.
- It is necessary to keep the demographic profile of those participating students in mind when interpreting the findings of this survey. Nearly 61% of those participating reported their status as freshmen, leaving less than 40% of those surveyed with the opportunity for being exposed to UMBC faculty prior to the survey.

10. To what extent do [UMBC] faculty encourage students to use the library?

- In general, the Task Force found that few faculty at UMBC who have been exposed to those participating in the survey encourage students to use the library.

The next section of this report will provide a demographic profile of the students who took the survey.

Demographic Profile

Although 427 individuals logged into my.UMBC.edu, the University’s portal, to begin the survey, only 424 submitted responses for questions. As noted previously, all participating students did not answer all of the questions. This demographic profile is based on the number of students who began the survey.

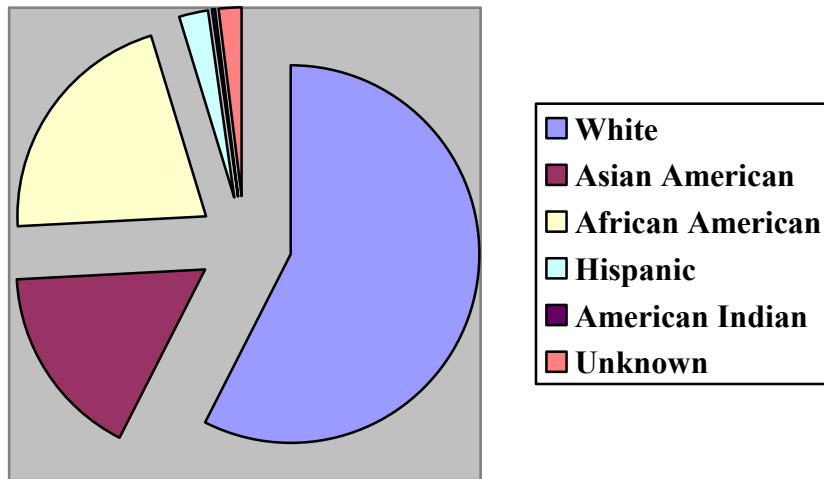
Gender and College Classification

Forty-two percent (179) of those participating in the survey were male, and nearly 56% (236) were female. Two percent of those participating did not indicate their gender. The majority of those participating, nearly 61% (152), were freshmen, nearly 20% (46) identified as sophomore, less than 10% each reported their status as a junior (20), senior (9), and two each were at the master’s and doctoral level. Approximately 20% of those participating identified as transfer students.

Racial and Ethnic Data

Figure 1 shows the racial and ethnic breakdown of the population participating in the survey. The majority of those participating were white (238), followed by Asian Americans (87) and African Americans (70). Although at first glance it may appear that American Indians (1) and Hispanics (11) were considerably underrepresented in the population; upon comparing the racial and ethnic make-up of those surveyed with the UMBC population, it was revealed that the ethnic and racial make-up of the study participants is about equal to the current student body at UMBC.⁵

Figure 1



Citizenship and Country of Birth

The majority of those participating (84%) identified as U.S. citizens, 7% identified as permanent residents, 5% identified as holding visas, and one identified as holding a refugee/parole visa. Citizenship data was not available for nine individuals.

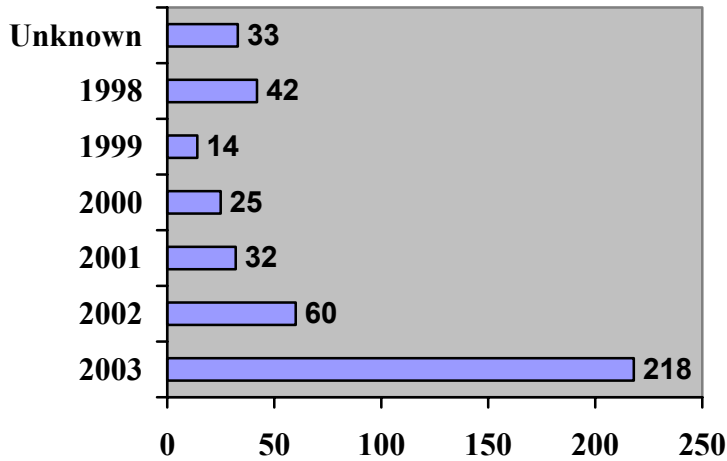
In addition to those who listed the U.S. as their country of birth, eighteen different countries were listed. India was the most frequently listed, selected by eight individuals; and Canada, the Republic of Korea and Nigeria each were chosen twice. Foreign born students made up less than 7% of the population.

High School Graduation

Figure 2 shows the year of high school graduation for those taking the survey. Two hundred and eighteen traditional freshmen graduated in 2003 and immediately enrolled at UMBC. This total includes 14 students who indicated they attended other colleges/universities prior to attending UMBC.

⁵ Minority enrollment at UMBC for 2002 was 34%: African American 15% (survey—21%), Asian American 16% (survey—17%), Hispanic & Native American 3% (survey—2.89%).

Figure 2



Among those coming to UMBC, 25% (106) had taken the CEEB (Advanced Placement—College Entrance Examination Board) which consists of either the College Level Exam Program (CLEP) that allows students to test out of courses, or the Advanced Placement Test in high school.

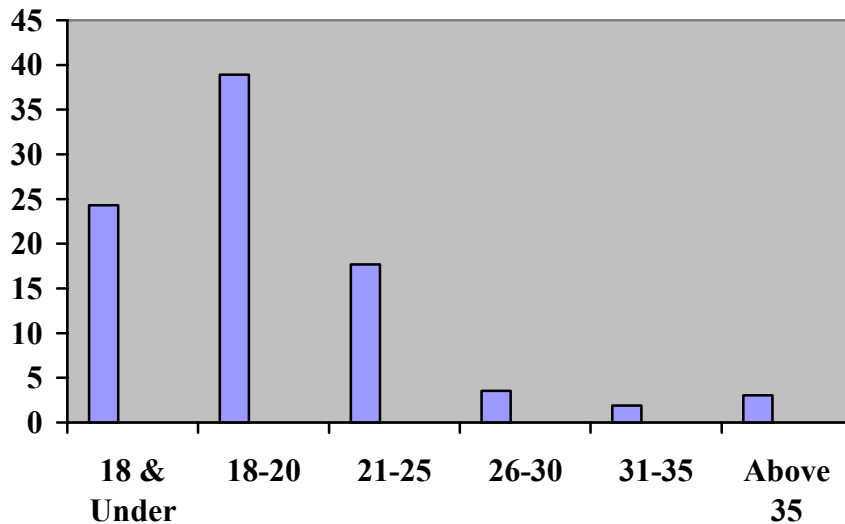
Previous College Experience

One hundred and ninety-five (46%) students did not attend college prior to coming to UMBC; nearly 30% (124) did attend college previously. Of those who did attend elsewhere prior to coming to UMBC, nearly 45% (54) attended community colleges including Anne Arundel Community College (15), Montgomery College (Rockville/Germantown/Takoma Park) (15), Catonsville Community College (14), and Howard Community College (10).

Age

Figure 3 shows that the majority of those surveyed (268) fell into the 20 and under age group. The next largest groups, nearly 18%, and almost 17% respectively, were made up of those ages 21 to 25, and 26 and above. Age data was not available for 45 participants.

Figure 3



Academic Majors

The most frequently listed majors (81) were in the biological sciences and chemistry. There were 33 pre-professional majors and 16 majors in psychology. Nearly 45% listed their major as undeclared or did not indicate a major.

The next section of this report will present, discuss and analyze key findings from questions representing each of the Standard areas.

Standard I: The information literate student determines the nature and extent of the information needed.

Key components of this Standard include defining and articulating a need for information, identifying a variety of types and formats of potential sources, considering the costs and benefits of acquiring the needed information, and reevaluating the nature and extent of the information need. All of the questions in the survey written for this Standard were attitudinal, none of the questions required students to demonstrate their skills.

The very first question asked students to indicate their comfort levels with a variety of skills associated with the research process. Two of the skills directly relate to Standard I, particularly the concepts of articulating an information need and identifying a

variety of types of potential sources. Students were asked to indicate their level of comfort “formulating questions based on information needs.” Twenty-six percent of those responding to this question (n=312) selected “very comfortable,” and 54.49% selected “comfortable.” Very few students (3.20%) indicated they were “uncomfortable” with this skill and no students selected “very uncomfortable.”

Additionally, students were asked to indicate their level of comfort identifying potential sources of information. Results for this were similar to those reported for “formulating questions,” with almost 30% “very comfortable,” and nearly 60% “comfortable.” Minimal figures (2.88%) were reported for “uncomfortable” or “very uncomfortable.”

Another question asked students to specify their level of comfort when seeking information from a variety of sources, including search engines, a library Web page, a friend, a professor/TA/GSA, a faculty or class Web site, or the library. Overwhelmingly, students responded that they were most comfortable seeking information from a search engine, with 91.45% selecting “very comfortable” or “comfortable.” The search engine receiving the most frequent mention was www.google.com. Only nine students indicated they were “uncomfortable” or “very uncomfortable” using a search engine. Comparatively, only 27.08% of the respondents felt “very comfortable” seeking information from a library Web page. This is worrisome considering the Web page for the Albin O. Kuhn Library & Gallery (UMBC Library), like most library Web sites, is an access point for over 180 subscription indexes and databases, the online catalog, and many other research tools. Interestingly, more students (73%) selected “very comfortable” or “comfortable” regarding seeking information from a library itself than from a library Web site (66%). Another telling comparison involves the responses to seeking information from a “friend” or a “professor/TA/GSA.” More students (32%) responded that they felt “very comfortable” seeking information from a friend than from a professor, TA, or GSA (22%). This question did not specify the kind of information that was being sought, though, and it is believed that if the question had specified a type of information, e.g. information for research purposes, the responses may have been different.

Students were given a sample topic (violence in American high schools) and asked to put indicate the order they would perform various steps when conducting research on this topic. In addition to an option for not taking a particular step, three of the steps involved the early stages of the research process that fall under Standard I. More than one half (54.13%) of those responding selected “brainstorm the concept, using the terms of the topic” as their first step in the research process, but less than 10% indicated they would not take this particular step at all. A little more than 15% selected “formulate question based on the information needed to begin the research,” as their first step. In this case, 15.29% of the respondents selected this as their first step, 49% of the respondents selected this as their second step, and 13 respondents (5.37%) indicated they would not take this particular step at all. Six students indicated that they would never use “reference material that provides an overview of violence and teenagers,” while 174 students selected this section as their third, fourth, or fifth step. It is refreshing to see that a great number of the students surveyed realize the value in using reference sources.

The Task Force was interested in learning about students’ understanding of the value of using a variety of types (such as primary and secondary) and formats (such as

multimedia, database, Web site, or book) of resources. One question provided a list of 15 types of resources, excluding basic resources such as books and journals, and asked students to select those that they were familiar with/or might use in a research project. The list included resources that the Task Force believed to be underutilized in general as resources for undergraduate students, such as speeches and conference proceedings. Students were able to select as many types of resources that were applicable. The results were not surprising, with only 65 of the respondents selecting dissertations/theses, 34 selecting conference proceedings, 71 selecting manuscripts, and 92 selecting television/radio transcripts. Conversely, 237 selected Web sites, the most of any selection. The results of this question confirmed the authors' theory that many excellent sources of information (most of which are easily accessible through the Library and via the Library's Web site) are underutilized by undergraduates.

Students were also asked "To what extent do you feel comfortable asking your professors for assistance in locating resources to support your research?" Responses to this question demonstrate that most students are comfortable asking their professors for some basic research assistance, but most are not comfortable asking for in-depth consultation and some are not comfortable approaching their professors for assistance with research at all. One hundred and fifty-two of the respondents selected "I feel comfortable asking my professors for a few recommended title/authors in the field," while only 90 respondents selected "I feel comfortable setting up an appointment with a professor for in-depth consultation regarding resources." Unfortunately, 51 students selected "I don't feel comfortable asking professors for assistance in this area."

Standard II: The information literate student accesses needed information effectively and efficiently.

Standard II addresses the selection of appropriate research methods, including investigative retrieval systems (databases and catalogs); the construction and implementation of effective search strategies; and the retrieval of information in a variety of formats using a variety of classification schemes. The UMBC survey questions for this Standard focused primarily on the students' knowledge of search strategy techniques, their ability to construct an effective search strategy, and their ability to identify citations.

When asked to indicate their comfort level with two skills related to this Standard, 77% reported that they were "very comfortable," or "comfortable" "developing successful search strategies;" however, 63% of those responding to a related question reported 'infrequent' or 'never' use of "Truncation," 66% reported 'infrequent' or 'never' use of "Proximity operators," and 74% reported 'infrequent' or 'never' use of "subject headings, descriptors, or some form of controlled vocabulary." 'Occasional' use of "Cross and multiple field searching," and "Limiters" was reported by less than 30% of those participating, and significant percentages of 'infrequent' or 'never' use of other searching techniques included Boolean operator 'OR' (43%); and Boolean operator 'NOT' (61%).

Eighty-three percent of those participating reported that they were "very comfortable" or "comfortable" "accessing sources of information, including computer-

based technologies.” A related question provided 12 options and asked students to respond to “Where would you go or what would you do to find current information on the following topic?—‘Terrorism on college campuses.’” Students were not asked to rank the order, and were able to select as many options as were applicable. Overwhelmingly, students selected “Online—Internet” as the place they would go to find current information on this popular topic. This option was selected by 258 students. One hundred and ninety-one students selected “newspaper archives,” 172 selected “magazines,” and 162 selected “television news.” Fewer students would seek information from “friends/colleagues” (112), “librarian” (98), “faculty/professors” (94), “radio news” (98), and “television/radio transcripts” (82). Even fewer would consider accessing “abstracts and indexes (databases)—electronic” (74) and “abstracts and indexes—print” (44).

On the other hand, when asked when they would consult a librarian for assistance, 228 students reported they would when they “needed advice about where to look for information,” 189 would when “they didn’t know how to use an information source,” and 163 would when “they needed help choosing the best information source.” One hundred and thirty-eight students selected the “all of the above option,” and 13 students admitted they “didn’t know when they would consult a librarian for assistance.”

When given a list of citations and asked to identify what each citation referred to, on two separate occasions, less than 50% of those participating (n=264), correctly identified the citations for journal articles. Less than 85% correctly identified the citation for a newspaper (83%), a government document (75%), and a master’s thesis (81%), even though the newspaper citation listed *The New York Times*, the government document citation included the words, United States Congress as the author, and the thesis citation listed “master’s thesis.” Only 60% correctly identified a citation as representing a book, 36% correctly identified a book chapter, and 50% correctly identified a citation as representing a conference proceeding, even though the citation included the word “conference.”

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

Standard III focuses on the student’s ability to evaluate information and sources. The majority of the questions written for this Standard were designed to ascertain students’ perceptions of the reliability, credibility, and usefulness of resources and sources of information. Additional questions were developed to determine how students evaluate information.

In terms of evaluating information, nearly 78% of those participating reported feeling ‘very comfortable’ or ‘comfortable’ evaluating information. However, when asked to rate the usefulness of resources when doing research, on a scale of 1 to 5 where 1=least useful and 5=most useful, “published in a refereed journal” received a ranking of #5 from only 16% of those participating (n=243); “theses and dissertations,” and “written by a university faculty” received a ranking of #5 from less than 10% (9.17% and 8.68%

respectively). “Published in a textbook” received the highest #5 ranking with more than 43%, followed by “available in a research library (37.86%), and “indexed in a computer database” (26.34%). The majority of the responses, ranging in the 20th to 30th percentile, were ranked at #3 and #4 for each of the categories, with the exception of “Published in an textbook,” which was ranked at #3 by 14%.

When asked if one could evaluate an article for bias before reading it, nearly 32% selected, “No. I need to read an article to find bias;” 15.16 % selected “Yes. The abstract usually evaluates the article and notes any bias;” less than 20% selected “Yes. If the article is reporting research, it should be unbiased;” and 17.21% selected “I don’t know.” Only 16% selected the correct response, “Yes. The reputation of a journal publisher or author may indicate bias.”

When asked how they would choose the best five articles from a search of an electronic database that yielded 77 citations to journal articles, less than 50% (42.19%) reported they would “Read the abstracts and or review the subject/descriptors to find the articles most relevant to your topic.” More disconcerting is the nearly 31% who selected “All of the above” which also included “Select the most recent articles” (7.17%), “Look for articles published in scholarly journals” (14.35%), and “Select articles with full text only” (2.95%).

In terms of students’ perceptions of reliable sources, a list of resources was provided to find out when students felt resources were reliable. Seventy-four percent reported that they would “always” consider “sources recommended by professors, librarians, and teaching assistants” reliable; and 78% reported they would “sometimes” consider “sources found on the Internet” reliable. Nearly 20% would “always” consider “sources found on the Internet” reliable.

Students were also asked to indicate, from a list of circumstances, when they would use an article located on the Internet in a research project. Significant numbers, more than 124 students, were reported for each of the instances listed with the exception of an “article written by an individual with no known subject-related credentials,” selected by 42 students; and an “article available from a free Web site accessible via the World Wide Web,” selected by 48 students. Four students indicated they would not use an article located on the Internet under any of the circumstances listed. Two hundred and four students indicated that they would use an article when the “article was written by a well-known scholar in the field.” One hundred and sixty-five would choose to use an “article available from a Web site ending in .edu and/or connected to a school, college or university,” and 124 would use an article if the “full text of article is available.”

In an effort to ascertain what sources and resources of information students believe are reliable and credible, the Task Force asked students which news resources they would consider credible for doing their research. Fifty percent or more reported that “CNN News/Headline News” (64%), “Cnn.com/Headline news.com (62%), and “World News Tonight with Peter Jennings/CBS Evening News with Dan Rather, etc” (55%) were “always” credible sources. Interestingly, less than 8% (7.44%) “always” consider “Black Entertainment Television News/BET Tonight with Ed Gordon” credible; and less than 20% (19%) reported that they felt “The Today Show/Good Morning America/The Early Show” was credible. At least 25% of all students responding to this question felt that all of the sources listed were credible “sometimes” with the exception of “Saturday Night

Live's Weekend Update with Tina Fey and Jimmy Fallon" which was felt to be a credible resource "sometimes" by 14%.

In terms of credible print sources, students were asked to respond similarly to a list of print resources that they would consider using in their research. Forty-nine percent or more felt that "*Time or Newsweek*" (55%), "*The New York Post*" (49%), and "*The New York Times/The Washington Post/The Los Angeles Times/The Baltimore Sun*" (61%) were "always" credible. The majority of the mainstream journals and publications listed were considered credible "sometimes" by 40% or more of those responding including "*Ebony*" (42%), "*Time or Newsweek*" (42%), "*New York Post*" (48%), "*Rolling Stone/Vibe*" (54%), "*Sports Illustrated*" (63%), "*People*" (53%), and "*Entertainment Weekly*" (44%). More than 55% "never" considered "*The National Enquirer*" (72%), "*Ebony*" (56%), "*Seventeen or Vogue*" (64%), or "*Entertainment Weekly*" (55%) credible.

Standard IV: The information literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose

Key concepts for this Standard are the ability to organize information that has been acquired, and the ability to communicate that information effectively and efficiently to accomplish a specific purpose. In other words, it is important for students to be able to think critically about the information they have acquired, in order for them to be able to communicate it in some meaningful way. A number of questions in the survey pertained to this Standard. As was the case with Standard I, it should be noted that these questions did not require students to demonstrate skills; questions were strictly attitudinal in nature.

As noted previously, the very first question of the survey asked students to indicate their level of comfort with eight information literacy skills. The abilities to think critically and successfully problem solve are major components of information literacy. Students were asked to respond regarding their comfort levels when "using information in critical thinking and problem solving." Seventy three percent of the respondents reported feeling "very comfortable" or "comfortable" with this skill. More than a quarter (25.96%) specified "neutral" or "uncomfortable," and only one student selected "uncomfortable."

Students were also asked about their level of comfort when organizing information for practical application. A little more than a quarter (25.40%) of the respondents were "very comfortable" with this skill, and 20% indicated they were "undecided/neutral." Few students (4.51%) indicated they were "uncomfortable" or "very uncomfortable." Another skill was integrating new information into an existing body of knowledge. A little more than 22% of the respondents each specified they were "very comfortable," and, "neutral/undecided" with this skill.

In terms of the research process, students responded with the level of frequency with which they complete certain related tasks. Seventy-two percent of the respondents indicated that they "revise outline based on research findings" "very frequently" or "frequently." Only 3% selected "never," while 11% selected "infrequently." Less than

25% indicated they “synthesize major points and concepts under outline headings” “very frequently,” while 43% reported doing so “frequently.” Less than 10% (9.02%) selected “infrequently” or “never” for this skill.

A major part of Standard IV is if and how students “use information effectively for presentations and assignments.” A list of nine methods/formats were provided for students to select from and indicate whether they had had the opportunity to use them in their academic career. Students were able to select any of the responses that were applicable. The most commonly selected method was a “written research paper,” selected by 229 students. Two other selections that received a great deal of responses were “visual projects” (194) and “presentation using PowerPoint or other presentation software” (192). Fewer students indicated they had the opportunity to present their research in Web format (87) or an audio/visual format such as CD, DVD, or VHS, which received 39, 17, and 90 responses respectively.

In response to a related question which asked students which of the options, if given the opportunity, they would feel comfortable using, 210 students reported they would feel comfortable producing a “written research paper,” 158 students chose “visual project,” and 175 students selected “presentation using PowerPoint or other presentation software.” Only 124 respondents selected “presentation using non-technical methods (flip charts, overhead transparencies, etc.)” These responses indicate that students are quite comfortable using presentation software such as PowerPoint, and also that students are less comfortable presenting without technology, using only flip charts or overheads. Eighty-one students indicated they were comfortable presenting their research findings as a Web page/site; and 47 respondents indicated that they would feel comfortable presenting using a CD, while 54 selected DVD and 67 selected VHS. It is unclear if the low number of responses is related to the technological skills needed to make/burn a CD, DVD, or VHS, or the act of presenting information using these mediums.

Standard V: 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.

Standard V focuses primarily on the student’s understanding of concepts such as privacy, security, censorship, copyright, fair use, and plagiarism.

In order to determine if students understood the concept of plagiarism, the Task Force allowed them to self-select their own common practices when developing a research project. Students were provided multiple options for selection. The majority of respondents did choose options that show an understanding of the research process. One hundred and fifty-nine students reported that they would “present a combination of reflection and opinions (theirs, and the authors), and from previously read material” when writing up information found for a research project or a research presentation. One hundred and thirty-two would “present the opinions of the author(s) verbatim in quotation marks.” Unfortunately, 63 students responded that they would “present what they thought their instructor wanted to hear,” and 29 would “only present their own opinions.”

A subsequent question directly introduced the concept of plagiarism and asked students to identify examples of plagiaristic activity from a list of choices. Only 4 students admitted that they “didn’t know” which options were examples of plagiarism, and 2 selected the “none of the above” option. The largest majority (231) selected “using phrases and sentences of others as if they were your own without giving credit (to the author).” The second highest (227) chosen option was “copying text written by someone else and using it without quotation marks.” The lowest (188) of the chosen options was “rewording someone else’s information and using it without giving credit (to the author).” Since all of the options provided were examples of plagiaristic activity, these results indicate that not all UMBC students understand fully how to use information legally in an academic environment.

Standard V also includes the concept of copyright. The Survey question addressing copyright introduced the concept and required students to respond to a list of examples as to whether or not they could legally use them on their own Web page without permission. The option that revealed the highest number of “No” responses (75%) involved scanning in text from a *Harry Potter* book. It is good to see that the majority of the students respect copyright laws in print, however, there are still 20 students (8.5%) who don’t see this as a violation of copyright, and 39 (16.7%) who “don’t know.” There were several options that created the least doubt in students (had the highest numbers of “No” responses), but still reveal a portion of the students who don’t understand copyright violations. One example, “the theme song from *Titanic* by Celine Dion” revealed a slight majority (61.9%) who reported that it would be illegal to use it on their own Web page without permission. Since the enforcement of music downloading is strictly enforced on the campus, it seems unusual that 20% said “Yes” to using the Celine Dion song, and 19% admitted they “didn’t know.”

Question number 34 introduced the concept of fair use and asked students to determine if they could legally use the examples provided when preparing an assignment for class. The first option details quoting from an article without citing a source, a clear example of plagiarism. Only 76% responded that they could not do this legally; 11% of the respondents chose “Yes” believing that it was legal, and 13% indicated they “did not know.” When students were presented with the option to use a video clip from *The Rosie O’Donnell Show* as part of a class presentation on talk shows, 74% correctly identified that they could legally do this, for purposes directly related to the course of study. Due to the fact that 14% responded “No,” and 12% “didn’t know,” it is clear there is still confusion about fair use as it applies to students in a classroom setting. Other responses further reveal this uncertainty, such as the example of copying a reserve item “your professor” placed in the library. Only a slight majority (57%) responded “Yes” to this clear example of fair use; do the other 43% think they might be committing a crime when they, and their classmates, photocopy reserve items? Does it make a difference that the item in question was a book chapter placed on reserve by a faculty member?

An additional survey question asked students to identify correct citation behavior necessary to avoid acts of plagiarism. The majority of responses indicated that most students can identify instances that require citation, however, the number dropped by 50 or more responses when the example involved rewriting article research in their own words. This means that from 199 responses for citing “when you quote one sentence from the article, using quotation marks,” and 187 responses for “when you copy a whole

paragraph,” responses dropped to 138 for “when you write it over in your own words.” This indicates that an unfortunate number of students may use research in their studies, but incorrectly represent that research as their own, having not taken into consideration that they must cite it as the work of others.

Relationship with Faculty

The UMBC Survey included several questions on the relationship between faculty and students. Faculty are in a key position to provide exposure to and experience in information literacy directly to students. In general, at UMBC, about one half of the faculty members who have been exposed to those students participating in the survey model good library use behavior. It should be pointed out that students were able to select more than one answer for this particular question.

Students were asked to consider their experience(s) with faculty in completing required assignments for courses. Fifty-eight students reported that “Faculty member requires no use of outside materials for completing course assignments,” and one hundred and seventy-seven students reported that “Faculty member requires use of only lectures and assigned textbook(s) for completing course assignments.” One hundred and twenty students reported that “Faculty member requires use of library to retrieve reserve materials,” and 128 reported that “Faculty member makes use of library materials (print and/or electronic) when presenting course material and lectures.” One hundred and forty-two students reported that “Faculty member requires or suggests use of library materials (print and/or electronic) when assigning coursework,” and only 52 students reported that “Faculty member invites librarians to introduce course-related library materials (print and/or electronic).

Twelve students reported that a faculty member had “Referred them to a specific librarian,” 54 reported a faculty member had “Encouraged them to seek a librarians’ assistance,” 56 reported that a faculty member had “taken their class to the library for a librarian-led tour/orientation,” and 52 reported that a faculty member had “taken their class to the library for one or more instruction sessions in the library and or/classroom. More disconcerting is the 184 students who selected the “None of the above” category, indicating that their interaction with faculty had not resulted in exposure to model library use behavior.

Summary

The majority of the students participating in the survey were white freshmen born in the United States, age twenty and under. They graduated from high school in 2003 and had not declared a major at the time of the survey. Slightly over half were female, and about 20% were transfer students. Including the United States, 19 countries were represented. After comparing the survey population with that of the campus overall, the Task Force found that respondents to the survey adequately represent the racial makeup of the campus.

The findings indicate that students will seek information from the Web before they will go to other sources of information (such as the library). Particularly, students

self-report very high comfort levels seeking information from a search engine. However, they report that they are more comfortable seeking information from the library itself than from the Library's homepage. Findings also indicate that students underutilize a number of quality resources such as dissertations/theses, conference proceedings, and manuscripts.

The data shows that students over estimate their comfort levels with many skills represented in the survey. In particular, students indicated that they were very comfortable developing successful search strategies, yet they were unfamiliar with basic search concepts such as Boolean operators, truncation, and controlled vocabulary. A significant number of the respondents had difficulty identifying citations for sources such as journal articles, newspaper articles, and book chapters.

Students indicated high levels of comfort with evaluating information. However, when presented with questions that allowed them to rate the usefulness of sources, several key forms of quality research, such as theses/dissertations and refereed journals, were rated lower than less scholarly resources. Many students could not identify that the reputation of the journal or author may indicate bias. When determining when they would use an article located on the Internet in a research project, the majority of responses showed positive results, but many respondents indicated they would use an article from a Web page ending in .edu. The concern is whether or not students understand the difference between personal/student Web pages housed on education Web sites and legitimate research. Nearly two-thirds of the respondents reported that they would always consider sources recommended by professors/librarians/TAs reliable. However, not all students reported feeling comfortable asking professors for research assistance.

The survey included a question about steps taken after gathering research. The majority of students indicated that they review their original research questions and determine if additional resources are needed and discard irrelevant information. Results show that nearly a quarter of the respondents are not comfortable when synthesizing the information they gather or integrating new information into an existing body of knowledge.

Other results show that students are comfortable presenting their research findings using technological methods, such as PowerPoint or a Web page.

When presented with questions relating to copyright and plagiarism, the majority of responses indicate that students understand basic legal issues in the use of information. However, there are a significant number of students who clearly cannot or will not apply basic principles of ethical information use in their role in the academic environment. Overall, students responded favorably to a question about how they used information for a research project, such as directly quoting a source and citing it. Although many responses were positive, there were a number of students who indicated that they would present what they thought their instructors wanted to hear, and others who would present only their own opinion when creating research projects. Also, there were a number of students who would use information without giving credit to the author/creator, or would violate laws by placing copyrighted works on their personal web sites without asking permission.

Recommendations

Based on the findings of this survey, the Task Force recommends the following measures be implemented to increase awareness of information literacy on campus, and to improve the information literacy skills of students at UMBC.

For Faculty:

- Develop workshops for faculty on:
 - Developing information literacy-friendly assignments;
 - Integrating information literacy Standards into a course;
 - Other topics determined relevant based on specific survey findings.
- Further develop Faculty Focus Web Site to include additional information about the survey findings. The survey will be rewritten to include narrative and background information on the nature of the question and what we were attempting to ascertain. Faculty and Students will be referred to this Web site for additional information on the survey and its purpose. Refer to Information Literacy Survey Results Dissemination on the Information Literacy Web page at <http://aok.lib.umbc.edu/reference/informationliteracy/results.php3> for more details.
- Develop additional programs based outcomes of the Brown Bag sessions to be held in November 2003.

For Students:

- Develop individualized one-on-one sessions, upon request, with librarians to discuss results and develop a plan for future instruction needs.
- Develop factoids slide show to advertise on the Commons Commonvision based on findings from the survey.

Future Directions

This survey was the first of its kind at UMBC and based on the findings and lessons learned, the Task Force is confident that this endeavor was successful in many ways. In terms of future assessment efforts, the Task Force would like to further refine the survey instrument as follows:

- A revision of the survey to decrease the length and complexity of questions.
- The addition of more technologically based questions to ascertain technological literacy skills of students at UMBC.
- The addition of more questions which require students to demonstrate their abilities, such as explaining/demonstrating how to attach an image or document to an email; or describing a search strategy. The first UMBC survey relied heavily

on student's attitudes and self-perceptions. The Task Force would like to gauge actual abilities.

- The addition of focused demographic questions such as Native Language to determine if there are differences in survey outcomes from students for whom English is a Second Language or a native language.

As Table 1 revealed, the number of students who actually participated in the survey was less than 10% of the total targeted population of the 3,347 students who were enrolled in the targeted and selected courses. In terms of participation in future surveys, the Task Force envisions:

- Garnering institutional support for mandatory participation. The Task Force does not have the authority to require students to participate in this research; however, university administration could be instrumental in assuring appropriate levels of participation, thereby increasing the number of students participating and enriching the diversity of the data gathered.
- Increasing the number of academic departments targeted. Eventually, the Task Force would like to have incoming base line data gathered on the entire incoming undergraduate population. Students have access to my.UMBC.edu prior to arriving on campus and survey completion may be done prior to their arrival on campus.
- Increasing the number of students participating. In the first survey, at least one professor in Biology rewarded students with extra credit for participating in the survey; and another faculty member in English Composition allocated class time for students to complete the survey. These two departments provided the bulk of the data gathered for the survey.

In addition to testing incoming students, the Task Force would like to expand the UMBC Information Literacy program to other student groups.

- Targeting advanced or graduating students to determine their information literacy levels upon graduation. Students could be required to complete a survey at the end of their senior year.
- Targeting graduate students to determine the information literacy levels of graduate students at UMBC.