

# From Perceptions to Connections: Informing Information Literacy Program Planning in Academic Libraries Through Examination of High School Library Media Center Curricula

Ramona L. Islam and Lisa Anne Murno

Academic librarians are challenged to provide instruction to freshmen who demonstrated varied levels of research skills. To investigate how extensively particular information literacy skills are addressed at the secondary level, the authors distributed a nationwide survey to school library media specialists. Results reveal a common set of skills that respondents perceive they teach in depth and a common set of skills that are perceived as neglected. Qualitative data identify hindrances to information literacy instruction in high schools. Avenues for collaboration between academic and school librarians are suggested as a means to closing the knowledge gap between high school and college.



A common frustration voiced by academic instruction librarians is the disparity of information literacy skills among college freshmen. Many students come to library instruction sessions unaware of the differences between a library catalog and online indexes, encyclopedias, and other types of electronic resources. Despite their computer skills, most have developed “inefficient or often misguided methods of finding information,” and can neither effectively evaluate nor appropriately use the information they find.<sup>1</sup> Indeed, many may never have visited an academic

library in their lives.<sup>2</sup> Reaching these students requires librarians to focus on teaching foundational skills, leaving little time to address more advanced learning goals. Conversely, a small handful of students arrive primed for basic research. This latter group tends to lose interest very quickly when librarians introduce the library catalog and other basic resources, because the information is redundant for them. The remainder of students fall somewhere in between these two extremes.

Donham argues that assessments are needed to help educators discern what students know by the end of the twelfth

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grade. Such assessments could help teachers build bridges across the knowledge gap between high school and college.<sup>3</sup> In fact, good instructional design practice recommends that teaching be preceded by a needs assessment, but in most cases, academic instruction librarians are not afforded the time to conduct needs assessments within the confines of the traditional one-shot session model.<sup>4</sup> When planning a single library instruction session for a specific class, it is helpful for librarians to meet with professors ahead of time to discuss course content and learning goals, in place of conducting a needs assessment. However, the ability to tailor instruction to students' needs becomes more challenging when planning a general program designed for all incoming freshmen; dealing with numerous classes and professors requires some level of standardization to ensure that all students receive an equitable grounding in information literacy.

A partial solution to this predicament exists in the form of the Educational Testing Service's new Information and Communication Technology (ICT) Literacy Assessment, which was piloted for the first time in November 2004 (a version of the test aimed at high school seniors and college freshmen, called the Core Academic Assessment, is now available). The ETS anticipates that colleges across the United States will soon test all students to measure each one's "ability to use technology as a tool to research, organize, evaluate, and communicate information" and to measure "understanding of the ethical/legal issues surrounding the access and use of information."<sup>5</sup> Implementation of the test provides librarians with a snapshot of information literacy proficiencies, however, it cannot reveal the full breadth or depth of students' information literacy skills, nor whether students are being taught such skills in high school. To shed light on this latter concern, the authors, an academic librarian and a school library media specialist, teamed up to conduct this study.

The authors' study attempts to measure, for the benefit of information literacy

program planning by academic instruction librarians, (a) which information literacy skills are most and least addressed by secondary School Library Media Specialists (SLMSs), (b) SLMSs' perceptions of students' overall information literacy competencies, (c) hindrances to optimal information literacy instruction, and (d) the conduciveness of school library media center environments to information literacy instruction. In pursuit of this information, the authors co-developed and distributed a survey questionnaire based on the "Information Literacy Competency Standards for Higher Education"<sup>6</sup> and the American Association of School Librarians (AASL)/Association for Educational Communications and Technology (AECT) "Information Literacy Standards for Student Learning."<sup>7</sup> These standards were devised to offer guidelines for information literacy instruction by academic librarians and school library media specialists. As Cahoy, an SLMS turned academic librarian, asserts, the two sets of standards have much in common, and efforts to align them would set the stage for educators to devise a much needed system of progressive information literacy instruction across the K-16 curriculum.<sup>8</sup>

### Methodology

The authors devised a 20-question survey instrument to investigate how extensively SLMSs address information literacy competencies. By separately examining the AASL/AECT and the ACRL standards, the authors identified a set of skills each considered highly important at the high school and college levels. Together, they mapped the AASL/AECT standards to the ACRL standards, identifying common themes. (See table 1.) This process enabled the authors to arrive at a select list of 23 information literacy skills applicable to both high school and college students, which they enumerated in questions 14 and 16 of the survey questionnaire. (See appendix.) Within each question, skills were grouped into five sections representing the five Information Literacy Compe-

tency Standards for Higher Education; each section listed between four and five selected skills.

Question 14 asked SLMSs to indicate how thoroughly they address the listed

skills with most students who come to the library for formal (whole class) instruction. A Likert scale was provided, allowing participants to indicate a range of responses between 1 and 5, with 1 indicating “least

**TABLE 1**  
**Mapping of Information Literacy Standards**

Information Literacy Competency Standards for Higher Education	AASL/AECT Information Literacy Standards for Student Learning
<p><b>Standard 1:</b> Determines the nature and extent of the information needed.</p> <p><b>Indicator 1:</b> Defines and articulates the need for information.</p> <p><b>Indicator 2:</b> Identifies a variety of types and formats of potential sources of information.</p> <p><b>Outcome c:</b> Identifies the value and differences of potential resources in a variety of formats (i.e. multimedia, database, website, data set, audio/visual, book).</p>	<p><b>Standard 1, Indicator 1:</b> Recognizes the need for information.</p> <p><b>Standard 1, Indicator 4:</b> Identifies a variety of potential sources of information.</p>
<p><b>Standard 2:</b> Accesses needed information effectively and efficiently.</p>	<p><b>Standard 1:</b> Accesses information efficiently and effectively.</p>
<p><b>Standard 3:</b> Evaluates information and its sources critically, and incorporates selected information into his or her knowledge base and value system.</p> <p><b>Indicator 2:</b> Articulates and applies initial criteria for evaluating both information and its sources.</p> <p><b>Outcome a:</b> Examines and compares information from various sources in order to evaluate reliability, accuracy, authority, timeliness, and point of view or bias.</p> <p><b>Indicator 4:</b> Compares new knowledge with prior knowledge to determine the value added, contradictions, or other unique characteristics of the information.</p> <p><b>Outcome b:</b> Uses consciously selected criteria to determine whether the criteria contradicts or verifies information used from other sources.</p> <p><b>Outcome c:</b> Draws conclusions based upon information gathered.</p> <p><b>Indicator 5:</b> Determines whether the new knowledge has an impact on the individual’s value system and takes steps to reconcile differences.</p>	<p><b>Standard 2, Indicators 1 and 2:</b> Determines accuracy, relevance, and comprehensiveness. Distinguishes among fact, point of view, and opinion.</p> <p><b>Standard 2, Indicator 3:</b> Identifies inaccurate and misleading information.</p> <p><b>Standard 2, Indicator 4:</b> Selects information appropriate to the problem or question at hand.</p>

**TABLE 1**  
**Mapping of Information Literacy Standards**

Information Literacy Competency Standards for Higher Education	AASL/AECT Information Literacy Standards for Student Learning
<p><b>Outcome a:</b> Investigates differing viewpoints encountered in the literature.</p> <p><b>Indicator 6:</b> Validates understanding and interpretation of the information through discourse with other individuals, subject area experts, and/or practitioners.</p> <p><b>Outcome a:</b> Participates in classroom and other discussions.</p> <p><b>Outcome b:</b> Participates in class-sponsored electronic communication forums to encourage discourse on the topic (i.e. email, bulletin boards, chat rooms).</p>	<p><b>Standard 7, Indicator 1:</b> Seeks information from diverse sources, contexts, disciplines, and cultures.</p> <p><b>Standard 9, Indicators 1, 2, &amp; 3:</b> Shares knowledge and information with others. Respects others' ideas and backgrounds and acknowledges their contributions. Collaborates with others, both in person and through technologies to design, develop, and evaluate information products and solutions.</p>
<p><b>Standard 4:</b> Individually or as a member of a group, uses information effectively to accomplish a specific purpose.</p> <p><b>Indicator 1:</b> Applies new and prior information to the planning and creation of a particular product or performance.</p> <p><b>Outcome b:</b> Articulates knowledge and skills transferred from prior experiences to planning and creating the new product or performance.</p>	<p><b>Standard 3:</b> Uses information accurately and creatively.</p> <p><b>Standard 9:</b> Participates effectively in groups to pursue and generate information.</p> <p><b>Standard 3, Indicators 2, 3, &amp; 4:</b> Integrates new information into one's own knowledge. Applies information in critical thinking and problem solving. Produces and communicates information and ideas in appropriate formats.</p>
<p><b>Standard 5:</b> Understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.</p> <p><b>Indicator 1:</b> Understands many of the ethical, legal, and socioeconomic issues surrounding information and information technology.</p> <p><b>Outcome b:</b> Identifies and discusses issues related to censorship and freedom of speech.</p> <p><b>Outcome c:</b> Demonstrates an understanding of intellectual property, copyright, and fair use of copyrighted material.</p>	<p><b>Standard 8:</b> Practices ethical behavior in regard to information and technology.</p> <p><b>Standard 8, Indicator 3:</b> Uses information technology responsibly.</p> <p><b>Standard 8, Indicator 1:</b> Respects the principles of intellectual freedom.</p> <p><b>Standard 8, Indicator 2:</b> Respects intellectual property rights.</p>

thoroughly (not at all)" and 5 indicating "most thoroughly." Question 16 also made use of the Likert scale, asking SLMSs to indicate how well, in their estimation, most high school seniors who received information literacy instruction can perform the listed skills. Subsequent to learning of the Educational Testing Service's new ICT Literacy Assessment, which was released several months after the survey questionnaire was distributed, the authors deemed the information collected from question 16 too speculative by comparison with results that can be discerned using the new ETS instrument. Actual student performance is a significantly more reliable measure of students' information literacy competencies than SLMSs' perceptions of students' capabilities. Thus, for the purposes of this manuscript, responses to question 16 are not reported.

SLMSs' perceptions of students' information literacy proficiency levels are not completely omitted, however. Questions 18 and 19 asked respondents to describe perceived student attitudes toward the value of libraries to their learning and whether or not students seem to be achieving, overall, desired levels of information literacy at a pace appropriate for the 21st century. The authors hope the responses to questions 18 and 19, though subjective, provide a wider context in which to interpret the other data collected.

Questions 1 through 13 elicited quantitative data. Responses to questions 1 through 3 document institutional demographics. Responses to questions 4–13 document conduciveness of school library media center environments to information literacy instruction, including library resources and facilities, types of library scheduling, frequency of library instruction, subject areas represented among classes receiving library instruction, and opportunities for inquiry-based learning.

The remaining questions (15, 17, and 20) provided text boxes to solicit comments from respondents. Question 15 sought to identify hindrances to optimal information literacy instruction by asking

those respondents who indicated a 1 or 2 on the Likert scale for questions 14 a–w to explain their rationale. In order to analyze the data, the authors grouped comments thematically. In some cases, the authors did not include comments they considered irrelevant. Question 17 asked those respondents who indicated a 1 or 2 for questions 16 a–w to explain their rationale. These comments are not included, however, because question 16 was omitted for the purposes of this manuscript. Finally, question 20 solicited general comments, a selection of which is reported.

Once the survey instrument was complete, the authors posted it on the Internet for nationwide distribution to SLMSs in March of 2004. They advertised the survey on state library listservs and contacted several state library media association presidents and chairs to request that they publicize the study among their constituents. This resulted in a total of 842 responses.

### **U.S. Regional Representation of Respondents**

The majority of respondents, 26.84 percent, hail from the Midwest, representing all of the states in that region. The South follows, with 19.6 percent of respondents representing all southern states. South Atlantic states come in third, at 12.71 percent of respondents with all states represented. Having nearly the same number of respondents (12.59%), but only five out of six states represented, the Mid-Atlantic region follows. All states in the Pacific region are represented by 11.64 percent of respondents. Trailing regions include the Mountain states, with 6.65 percent of respondents, and New England, represented by only 5.82 percent of respondents. Regional representation appears to coincide somewhat with population differences between regions.<sup>9</sup> (See figure 1.) Meanwhile, a disproportionately high percentage of respondents from rural areas answered the survey—43.83 percent compared to 39.44 percent

representing suburban areas, and 16.73 percent hailing from urban areas. Only 160 (19.54% of respondents) report a minority student population of 51 percent or greater. Because survey respondents do not represent a controlled number of demographic groups across all 50 states, meaningful correlations cannot be drawn between the demographic data gathered and the information literacy curricula in question. The survey results are most useful for discerning trends; for example, which information literacy skills are addressed by SLMSs at the high school level.

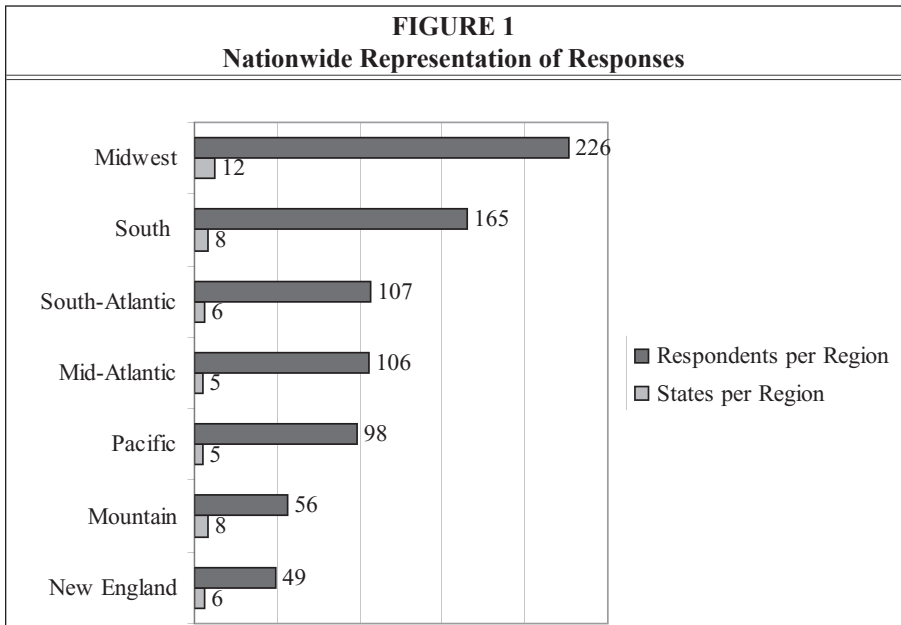
**Findings**

Survey questions were designed to elicit quantitative and qualitative data documenting (a) which information literacy skills are most and least addressed by SLMSs, (b) SLMSs’ perceptions of students’ overall information literacy competencies, (c) hindrances to optimal information literacy instruction, and (d) the conduciveness of school library media center environments to information literacy instruction.

**Information Literacy Skills Most Addressed by SLMSs**

Of the five Information Literacy Competency Standards for Higher Education, Standard Five, which entails an understanding of myriad issues surrounding information access and use, is addressed most thoroughly by SLMSs who answered the survey. (See figure 2.) Sixty-one percent of respondents report teaching Standard Five at a 4 or 5 level, where a 5 rating indicates “most thoroughly” on a scale of 1 to 5. Of respondents who teach specific skills in this standard at a 4 or 5 level, 79 percent cover how to avoid plagiarism and document sources using an appropriate citation style; 73 percent cover how to demonstrate behaviors in compliance with institutional policy; 65 percent cover how to apply copyright and fair use guidelines to the acquisition, use, and distribution of information; 47 percent cover how to distinguish between fee-based and free online resources; and 39 percent cover how to define and analyze issues of privacy, censorship, and freedom of speech.

The second most thoroughly addressed standard is Standard Three, which deals

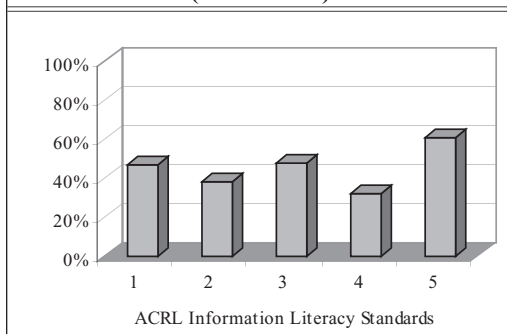


with the critical evaluation and analysis of information. Forty-eight percent of respondents report teaching Standard Three at a 4 or 5 level. Of respondents who teach specific skills in this standard at a 4 or 5 level, 66 percent cover how to recognize the authority, accuracy, timeliness, and bias of a wide variety of sources; 59 percent cover how to consult resources representing a wide range of viewpoints; 36 percent cover how to discern the background and cultural context of presented information; and 32 percent cover how to investigate footnotes, suggested resources, hyperlinks, or cited references.

The third most thoroughly addressed standard is Standard One, which entails determining when, how much, and what type of information is needed to address a particular problem or task. Forty-seven percent of respondents report teaching Standard One at a 4 or 5 level. Of respondents who teach specific skills in this standard at a 4 or 5 level, 81 percent cover how to select appropriate resources, in scope and content, to satisfy a specific information need or task; 77 percent cover how to explore and identify the value of resources in a variety of formats; 33 percent cover how to differentiate between primary and secondary resources; 31 percent cover how to brainstorm broad and specific questions related to a topic or thesis statement; and 14 percent cover how to develop a thesis statement.

Standard Two, which prescribes effective and efficient approaches to accessing information, is the fourth most thoroughly addressed standard. Thirty-eight percent of respondents report teaching Standard Two at a 4 or 5 level. Of respondents who teach specific skills in this standard at a 4 or 5 level, 51 percent cover how to identify keywords, synonyms, and related terms describing information needed; 45 percent cover how to construct search queries using Boolean operators in a variety of information retrieval systems; 41 percent

**FIGURE 2**  
**Most Addressed ACRL Standards**  
**(4 or 5 level)**



cover how to identify gaps in information retrieved and revise search strategies as needed; and 16 percent cover how to construct search queries using truncation characters or wildcards in a variety of information retrieval systems.

Finally, Standard Four, which is concerned with the effective, purposeful use of information, is being taught at a 4 or 5 level by only 32 percent of respondents. Of respondents who teach specific skills in this standard at a 4 or 5 level, 44 percent cover how to use technology to manipulate various media in print, analog, and digital formats; 38 percent cover how to effectively communicate a final product or presentation using a style that suits both the message and the intended audience; 32 percent cover how to synthesize knowledge and skills gained from prior experience with new knowledge; 30 percent cover how to select and organize content to support and enhance a final product or presentation; and 16 percent cover how to use technologies to conduct comparative analyses of information retrieved. See table 2 for a listing of the top two most addressed skills within each standard.

#### ***Information Literacy Skills Least Addressed by SLMSs***

On a scale of 1 to 5, survey participants were asked to assign a rating of 1 to skills they taught "least thoroughly (not at all)." This portion of the study is concerned



with skills receiving a 1 or 2 rating. As one might assume, there is an inverse relationship between the most and least addressed standards, with Standard Four rating highest (41%) in the “least thoroughly” addressed category, followed by Standard Two (32%), Standard One (30%), Standard Three (23%), and Standard Five (18%), respectively. (See figure 3.)

Of respondents who teach specific skills in Standard Four—the least addressed standard—at a 1 or 2 level, 59 percent

cover how to use technologies to conduct comparative analyses of information retrieved; 44 percent cover how to select and organize content to support and enhance a final product or presentation; 36 percent cover how to effectively communicate a final product or presentation using a style that suits both the message and the intended audience; 35 percent cover how to synthesize knowledge and skills gained from prior experience with new knowledge; and 30 percent cover how

**TABLE 2**  
**Top Two Most Addressed Skills in Each Standard (4 or 5 level)**

ACRL Standards	Question	Skills	Frequency	%
1	14 e.	Select appropriate resources, in scope and content, to satisfy a specific information need or task.	638	81.00%
	14 c.	Explore and identify the value of resources in a variety of formats (book, periodical, Internet, video, audio recording, CD-ROM).	613	77.00%
2	14 f.	Identify keywords, synonyms and related terms describing information needed.	409	51.00%
	14 g.	Construct a search query, using Boolean operators (AND, OR, NOT, +, -), in a variety of information retrieval systems.	355	45.00%
3	14 j.	Recognize the authority, accuracy, timeliness and bias of a wide variety of sources.	527	66.00%
	14 k.	Consult resources representing a wide range of viewpoints.	468	59.00%
4	14 q.	Use technology to manipulate various media (images, text, sound, video) in print, analog, and digital formats.	350	44.00%
	14 r.	Effectively communicate a final product or presentation using a style that suits both the message and the intended audience.	298	38.00%
5	14 v.	Avoid plagiarism and document sources using an appropriate citation style.	628	79.00%
	14 w.	Demonstrate behaviors (use of passwords, netiquette, respect for intellectual property, use of equipment) in compliance with institutional policy.	581	73.00%



to use technology to manipulate various media in print, analog, and digital formats.

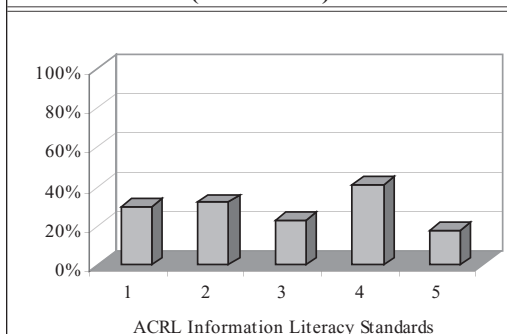
Of respondents who teach specific skills at a 1 or 2 level within Standard Two—the second least addressed standard—58 percent cover how to construct search queries using truncation characters or wildcards in a variety of information retrieval systems; 27 percent cover how to construct search queries using Boolean operators in a variety of information retrieval systems; 25 percent cover how to identify gaps in information retrieved and revise search strategies as needed; and 18 percent cover how to identify keywords, synonyms, and related terms describing information needed.

Of respondents who teach specific skills in Standard One at a 1 or 2 level, 65 percent cover how to develop a thesis statement; 37 percent cover how to brainstorm broad and specific questions related to a topic or thesis statement; 32 percent cover how to differentiate between primary and secondary resources; 9 percent cover how to explore and identify the value of resources in a variety of formats; and 5 percent cover how to select appropriate resources, in scope and content, to satisfy a specific information need or task.

Of respondents who teach specific skills in Standard Three at a 1 or 2 level, 36 percent cover how to investigate footnotes, suggested resources, hyperlinks, or cited references; 32 percent cover how to discern the background and cultural context of presented information; 14 percent cover how to consult resources representing a wide range of viewpoints; and 12 percent cover how to recognize the authority, accuracy, timeliness, and bias of a wide variety of sources.

Finally, of the respondents who teach specific skills in Standard Five at a 1 or 2 level, 30 percent cover how to distinguish between fee-based and free online resources; 28 percent cover how to define and analyze issues of privacy, censor-

**FIGURE 3**  
**Least Addressed ACRL Standards**  
**(1 or 2 level)**



ship, and freedom of speech; 13 percent cover how to apply copyright and fair use guidelines to the acquisition, use, and distribution of information; 12 percent cover how to demonstrate behaviors in compliance with institutional policies; and 8 percent cover how to avoid plagiarism and document sources using an appropriate citation style. See table 3 for a listing of the top two least addressed skills within each standard.

In cases where SLMSs reported that they addressed skills barely or not at all (indicated by a 1 or 2 rating), they were asked to explain why. Following are the top five reasons: 268 respondents report that classroom teachers assume responsibility for teaching particular skill(s); 97 respondents say they do not have enough time or their workloads are too heavy to address said skills; 63 have decided the particular skills do not need to be taught; 32 report too few opportunities for consistent information literacy instruction; and 31 cite a lack of collaboration with classroom teachers.

#### ***SLMSs' Perceptions of Students' Overall Information Literacy Competencies***

Question 18 asked respondents how they would describe the general attitude among most students toward the value of libraries to their learning, research, or personal development. A majority of SLMSs, 76.15 percent, perceive that most students

**TABLE 3**  
**Top Two Least Addressed Skills in Each Standard (1 or 2 level)**

ACRL Standards	Question	Skills	Frequency	%
1	14 a.	Develop a thesis statement.	520	65.00%
	14 b.	Brainstorm broad and specific questions related to a topic or thesis statement.	294	37.00%
2	14 h.	Construct a search query, using truncation characters or wildcards (*, \$, ?), in a variety of information retrieval systems.	460	58.00%
	14 g.	Construct a search query, using Boolean operators (AND, OR, NOT, +, -), in a variety of information retrieval systems.	212	27.00%
3	14 m.	Investigate footnotes, suggested resources, hyperlinks, or cited references.	283	36.00%
	14 l.	Discern the background and cultural context of presented information.	253	32.00%
4	14 n.	Use technologies (spreadsheets, graphs, maps, images, databases) to conduct comparative analyses of information retrieved.	468	59.00%
	14 o.	Select and organize content (through note taking, storyboarding, outlines, or drafts) to support and enhance a final product or presentation.	350	44.00%
5	14 s.	Distinguish between fee-based and free online resources.	234	30.00%
	14 t.	Define and analyze issues of privacy, censorship, and freedom of speech.	223	28.00%

have a positive (60.42%) or very positive (15.73%) attitude toward the value of libraries. Only 21.6 percent perceive that students have a neutral attitude toward libraries, while 2.25 percent perceive a negative attitude among students. No respondents indicated that they perceive most students have a very negative attitude toward libraries.

In light of such positive perceptions, it is significant that 51.13 percent of SLMSs who responded to question 19, which asked whether or not they think most students in their schools are achieving desired levels of information literacy at a pace

appropriate for the 21st century, do not think that most students at their schools are achieving desired levels of information literacy, whereas only 37.84 percent do think their students are achieving desired information literacy levels, and 11.03 percent don't know whether or not students are acquiring desired information literacy skill levels. SLMSs' perceptions suggest that students are ripe for learning information literacy skills; however, further examination of survey results suggests that in many cases, adequate opportunities to learn these skills are not being afforded to students in secondary schools.

### *Hindrances to Optimal Information Literacy Instruction*

At the end of the survey questionnaire, qualitative data in the form of general comments were solicited from participants. A total of 336 comments were received—far too many to list separately. The overwhelming number of comments expressed frustration regarding a perceived lack of support for information literacy instruction in schools. Following are selected comments identifying frequently cited hindrances, including administrative oversight, pedagogy that is not rooted in inquiry-based learning, lack of information literacy skills among content area teachers, lack of collaboration, and staffing or budget shortages. Despite findings of a 2002 nationwide survey that most (66%) SLMSs have very supportive principals,<sup>10</sup> administrative oversight appears to be an increasing concern, as expressed by some respondents: “Administration does not foster/enable teacher-librarian collaboration to support information literacy skills”; “My principal told me to stop thinking of myself as a library media teacher, but to consider myself as a multipurpose room manager”; and “The superintendent and high school principal have publicly stated that there is no need for a library or librarian as long as there is Internet access.” Regarding inquiry-based learning, quantitative data suggest that few schools are implementing inquiry across the curriculum: “Teachers are not constructing assignments that promote the use of library print or online resources;” “Among teachers, the great concern is students passing standardized tests needed for graduation—all other things, including information literacy skills, take a back seat”; and “Much, much more needs to be done at the elementary and junior high levels to get librarians and teachers to work together to channel students’ natural curiosity into ‘real’ research projects in order to promote lifelong library skills.” Another hindrance to achieving optimal information literacy competency levels cited by SLMSs is

content area teachers’ perceived lack of information literacy competencies. Considering that a fair number of SLMSs (268 respondents) leave the responsibility for teaching some information literacy skills in the hands of classroom teachers, this may be cause for concern: “Teacher training programs need to instruct in the value of SLMPs and SLMS [sic] in helping them teach and helping their students learn”; “The reform needs to START at the pre-service level”; and “Whole faculties need to be trained in information literacy and time needs to be allotted for collaborative planning.” Focusing even more intently on collaboration, one respondent noted, “The greatest difficulty in addressing issues of information literacy is ‘selling’ the need to teachers who are fairly territorial and not particularly willing to share instructional time.” Additionally, SLMSs confided concerns about budget and staffing shortages, such as, “One librarian for 1600 students is not an acceptable ratio”; “Three certified school library media specialists for 3800 students is not a viable ratio for optimum instruction”; “Technology and the Internet have increased the role of the library/media specialist, not decreased it, yet many schools are opting to eliminate this position during budget cuts”; and “Just as we were beginning to see teachers encourage the use of databases, the . . . legislature did away with the funding for them.”

### *Conduciveness of School Library Media Center Environments to Information Literacy Instruction*

When presented with a list of technological resources and equipment, the greatest number of respondents, 99.03 percent, indicates their school library media center provides access to the Internet, followed by 92.94 percent reporting access to a VCR, 90.39 percent reporting access to online subscription databases, and 88.32 percent reporting access to an audiocassette tape player. Additionally, school library media centers tend to supply (in diminishing order) CD players, current print reference materials, multimedia projectors, digital

still cameras, scanners, DVD players, and CD-ROM burners. Far fewer respondents, 34.7 percent, report the availability of current CD-ROM reference materials, followed by 33.7 percent reporting access to a wireless network, 24.45 percent reporting access to digital video editing tools, 19.95 percent reporting access to a DVD-ROM burner, and only 17.03 percent reporting access to linear video editing tools. Digital video recorders and analog video cameras are not in abundant supply, either.

Concerning traditional paper resources, respondents date their school libraries' monograph collections at 1983, on average, indicating that the average book is twenty-one years old. Unfortunately, only 5.11 percent of libraries boast a collection dated 2000 forward, while 63.69 percent own collections aged between fifteen and fifty-four years.

Participants were also asked to name the type of scheduling used in the school library media center. The most common types of scheduling are fixed, flexible, or block. Under fixed scheduling, classes meet in the library at a specific time every week. Under flexible scheduling, library meeting times are not set at regular intervals, but are cooperatively planned according to curricular need by content area teachers and school library media specialists. Block scheduling entails periods stacked back to back, doubling the time allotted for individual classes. According to a national survey conducted by *School Library Journal* (SLJ) in 2002, the most common type of scheduling is flexible.<sup>11</sup> The data collected in this study indicate a similar distribution: 71.16 percent flexible, 15.84 percent block, 10.4 percent fixed; however, this study reports even greater numbers with flexible scheduling compared to the SLJ study, and one-third as many using fixed. Other types of scheduling, listed by 2.6 percent of respondents, include flexible block, fixed/flexible combination, modular, mixed, and alternating block. While the AASL and the AECT officially support flexible scheduling as the choice most conducive to student learning, there

is a dearth of scientific research to compare the benefits of one scheduling method over another.<sup>12</sup>

Crucial to the success of any secondary information literacy program is the opportunity for students to receive instruction from school library media specialists. Unfortunately, few respondents indicate an abundance of such opportunities. When asked what percentage of teachers bring their classes to the library for formal instruction, the majority (44.21%) indicate only 1 to 25 percent of teachers do so, whereas far fewer (22.41%) report at least 51 to 99 percent of teachers incorporate library instruction into their classes, and only one-third of that number (7.22%) indicate participation at 76 to 99 percent of teachers. Class visits by 26 to 50 percent of teachers are reported by 31.51 percent of respondents, while visits by either none or all teachers are reported by a mutually miniscule number of respondents (0.87%). Language arts and social studies teachers bring their classes to the library with much greater frequency than do teachers of mathematics or visual and performing arts, while science teachers are neither more nor less likely to take advantage of library instruction. Concerning the delivery of formal (whole class) library instruction annually, the majority (64.96%) report that only 1 to 25 percent of the library's operating time is dedicated to the effort. The second highest number (24.81%) reports that library instruction consumes 26 to 50 percent of operational time. After that, 6.11 percent of respondents report 51 to 75 percent of time dedicated to library instruction; followed by 2.12 percent reporting 76 to 99 percent, 1.25 percent reporting 0 percent, and none reporting 100 percent. Five respondents (0.62%) indicate that they do not know what percent of the library's operating time is dedicated to whole class instructional efforts. It should be noted that time dedicated to one-on-one reference assistance in these libraries is significantly higher, with 29.65 percent reporting the availability of reference assistance during

51 to 75 percent of operational hours, and the same number reporting this service during 26 to 50 percent of operational hours. Reference assistance is available 76 to 99 percent of the time, according to 23.95 percent of respondents, while 13.77 percent offer the service 1 to 25 percent of the time. A small number (2.48%) report that reference assistance is available during 100 percent of operational time, and 0.50 percent say they don't know what percentage of library time is dedicated to the delivery of reference services.

Finally, the implementation of inquiry-based learning across the curriculum indicates the likelihood of more students learning information literacy skills. Because inquiry-based learning is self-directed, offering students the latitude to formulate questions and investigate a topic of their own choosing, students in an inquiry-based program are more likely to generate their own thesis statements. While each student's project should relate to the unit under study, teachers implementing inquiry in the classroom rarely dictate specific research topics.<sup>13</sup> Thus, the survey asked SLMs to report the percentage of students working on assignments in the library who had been given the freedom to generate their own research topics or thesis statements. The results, listed in order from most to least reported, are as follows: 1 to 25 percent of students (reported by 27.39% of respondents); 26 to 50 percent of students (reported by 25.65% of respondents); 51 to 75 percent of students (reported by 22.68% of respondents); 76 to 99 percent of students (reported by 19.58% of respondents); "don't know" (indicated by 2.23% of respondents); and 0 percent of students (reported by 1.73% of respondents). Alongside qualitative data discussed earlier, these findings suggest that inquiry-based learning has not taken hold at most respondents' institutions.

## Discussion

According to survey results detailing which information literacy skills are most or least addressed by high school SLMs,

the authors were able to compile a list of likely information literacy competencies of incoming college freshmen, as well as a list of skills that incoming freshmen are less likely to have encountered in high school. Skills (addressed at a 4 or 5 level by more than 50% of SLMs) likely to be familiar to students include selecting appropriate resources, in scope and content, that satisfy a specific information need or task; avoiding plagiarism and documenting sources using an appropriate citation style; exploring and identifying the value of resources in a variety of formats; demonstrating behaviors in compliance with institutional policy; recognizing the authority, accuracy, timeliness and bias of a wide variety of sources; consulting resources representing a wide range of viewpoints; and identifying keywords, synonyms, and related terms describing needed information. Skills (addressed at a 1 or 2 level by more than 50% of SLMs) likely to be unfamiliar to students include developing a thesis statement; using technologies to conduct comparative analyses of information retrieved; and constructing search queries using truncation characters or wildcards in a variety of information retrieval systems. It is important to note that actual student competencies may not coincide with the skills mentioned above, because the survey measures what is perceived as taught, not what is learned.

Because this study indiscriminately targeted SLMs throughout the country instead of sampling specific SLMs based on demographic groupings, the results cannot be generalized to all SLMs in the United States. With this limitation, scientific correlations cannot be drawn between the most or least addressed skills and the conduciveness of school library media center environments to information literacy instruction.

It is interesting, however, that many of the findings regarding most and least addressed skills do seem to correspond to findings regarding school library media center environments, though not across the board. For example, concerning the

availability of library resources, findings reveal that monograph collections in most respondents' libraries are twenty-one years old, on average. Results also indicate that only 32 percent of respondents rate their coverage of how to investigate footnotes, suggested resources, hyperlinks, or cited references at level 4 or 5 on the Likert scale. One might speculate that because many of the books available are outdated, SLMSs often don't incorporate them into instruction; thus, the bibliographic references therein also are overlooked. Respondents' comments noting budget shortfalls suggest that many libraries lack the funding to update their monograph collections.

Concerning the availability of library facilities, most respondents report that their libraries provide Internet access, VCRs, online subscription databases, audiocassette tape players, and CD and DVD players. It follows that most SLMSs assign a 4 or 5 rating to their coverage of how to explore and identify resources in a variety of formats, and how to demonstrate behaviors (use of passwords, netiquette, respect for intellectual property, use of equipment) in compliance with institutional policy. Concerning the lack of library facilities, few respondents report the availability of CD-ROM reference materials, a wireless network, digital video editing tools, DVD-ROM burners, linear video editing tools, digital video recorders, or analog video cameras. Because of this, it is not surprising that only 44 percent of respondents rate their coverage of how to use technology to manipulate various media (images, text, sound, video) in print, analog, and digital formats at level 4 or 5. It is surprising, however, that despite the widespread availability of online subscription databases, a majority of SLMSs assign only a 1 or 2 rating to their coverage of truncation characters, while fewer than half (45%) rank Boolean operators among their most addressed skills. Similarly, a majority assign a 1 or 2 rating to their coverage of how to use technologies (spreadsheets, graphs, maps, images, databases) to conduct comparative analyses of information retrieved.

It appears that access to facilities does not guarantee the teaching of complementary skills. Budget shortages noted in respondents' comments probably explain why most libraries lack particular equipment such as digital video editing tools, but it is more difficult to guess why some skills are not taught despite the availability of the Internet and online subscription databases. Multiple comments noting hindrances to optimal information literacy instruction, including flimsy support from school administrators and a lack of collaboration between classroom teachers and SLMSs, may begin to explain this phenomenon. Instruction in the use of library databases, sophisticated search strategies, maps, and images is appropriate for students, but, without teacher-librarian collaboration, it may not occur.

Findings reveal that opportunities for library instruction are in short supply. Almost half of respondents report that only 1 to 25 percent of teachers bring their classes to the library for formal instruction, and more than half report that only 1 to 25 percent of the library's operational time is devoted to the delivery of formal (whole class) library instruction annually. In light of this, one can understand why 51.13 percent of respondents do not think that most students at their schools are achieving desired levels of information literacy at a pace appropriate for the 21st century, whereas 37.84 percent do think their students are achieving desired information literacy levels. Comments elaborating on these findings suggest that this underutilization of school libraries may be the result of administrative oversight and a lack of collaboration between content area teachers and SLMSs.

Finally, regarding opportunities for inquiry-based learning, a majority of respondents report that only 1 to 50 percent of students who come to the library to work on an assignment have been given the freedom to generate their own thesis statements. This corresponds to findings that the development of a thesis statement is among the least-taught skills. Similarly,



the practice of brainstorming broad and specific questions related to a topic or thesis statement is underemphasized. Respondents' comments support this conclusion. When describing why some skills are barely or never addressed, many SLMSs noted a lack of inquiry-based learning as evidenced by a dearth of assignments that encourage students to research authentic questions.

As the survey results suggest, in many cases where SLMSs do not cover certain information literacy skills, it is because content-area teachers have already laid claim to the particular domain. However, SLMSs are often better equipped to teach information literacy skills than their content area teacher colleagues. Student comments published in the U.S. Department of Education's 2004 National Education Technology Plan lend credence to this argument, at least where technology is concerned. For example, one student said, "I think that teachers should be required to go to a technology course," and another student said, "Give the teachers more training and give us more computer classes."<sup>14</sup> Students are not alone in this view. In the words of one librarian, "We will never be able to determine the true worth of the Web or any technology without staff education. Thus, one of the primary tasks facing an SLMS is to teach the faculty how to effectively search for and use information located on the web."<sup>15</sup> In order for information literacy instruction to be successful in secondary schools, collaboration between content area teachers and SLMSs is imperative,<sup>16</sup> but teachers who are not information literate themselves are not likely to see the need to collaborate with SLMSs to incorporate information literacy into student learning.

In addition to SLMS/teacher collaboration, collaboration between high school and college educators can help students begin to fill the knowledge gap between high school and college curricula.<sup>17</sup> However, collaborative endeavors between academic librarians and their K-12 counterparts are few and far between.<sup>18</sup>

In order for such partnerships to emerge and grow, support from college and school administrators is imperative.<sup>19</sup> The library community would be well advised to advocate more strongly in support of such efforts, because many SMLSs do not receive the administrative support required to sustain current collaborative efforts within their own institutions, let alone embark on outreach efforts.

Proving the value of such collaborative endeavors are programs such as the one at the David Adamany Undergraduate Library at Wayne State University, where librarians worked alongside a science library media specialist and a science teacher from Detroit's Northwestern High School. Together, these educators infused information literacy concepts into the science curriculum. According to the SLMS involved, "initially, teachers were skeptical. When they realized that information literacy was part of national and state standards for each curriculum area, they became more involved."<sup>20</sup> Similarly, librarians at the University of Nebraska-Lincoln developed a high school users program in cooperation with local schools. Students received advance instruction in the use of the university's library catalog from their SLMSs, then visited the university and received additional instruction from academic librarians. Additionally, students were granted borrowing privileges at the academic library, and if they decided to attend the University of Nebraska-Lincoln, they were given the opportunity to test out of the university's basic information literacy library research skills class.<sup>21</sup> The Institute of Museum and Library Services (IMLS) has endorsed similar activities, granting \$880,254 in 2003 for continuing education and training of library staff. It has funded the Northern Illinois Learning Resources Cooperative, a consortium of colleges, universities, and community colleges that have endeavored to facilitate collaboration between higher education professionals and high school librarians and teachers for the purpose of developing



information literacy resources for at-risk students.<sup>22</sup> More recently, the IMLS has dedicated \$563,621 to the S.O.S. project (Situations, Outcomes, Strategies), spearheaded at Syracuse University. This project promotes collaborative approaches to information literacy instruction in K–8 education by supplying librarians and classroom teachers with lesson plans, tools, and ideas for incorporating information literacy skills with subject matter content. S.O.S. may soon be adapted for use across the entire K–16 curriculum.<sup>23</sup> Yet another program, the “Cooperative Library Project,” involved the Brooklyn College Library and high schools in the New York City area. A unique aspect of this project was the provision of information literacy instruction to both secondary school students and their teachers.<sup>24</sup> Another effort worth mentioning is the pre-service teacher education course taught by academic librarians at the William Russell Pullen Library at Georgia State University. The course, titled “Selection and Use of Reference Sources,” taught K–12 teachers basic information literacy skills, such as how to identify appropriate reference tools to answer a specific information need. Thus, these current and future teachers learned the value of teaching similar skills to their students.<sup>25</sup> Programs like these are most successful when parties involved establish mutually agreed-upon goals, rotate leadership among all players, design plans well in advance of implementation, and allocate sufficient financial resources (such as stipends or load credit for the SLMSs, teachers, and faculty members involved).<sup>26</sup> Clearly, high schools benefit from such programs, but limited public school budgets often require universities to contribute disproportionately and may cause some to wonder what motivates institutions of higher learning to stay on board. Increased recruitment opportunities and a diminished need to offer remedial classes for college freshmen are often sufficient compensation.<sup>27</sup>

## Recommendations

In order for high school students to acquire information literacy skills at a pace appropriate for the 21st century and begin their college careers with a common set of information literacy competencies, several actions might be taken. First of all, institutions of higher learning should consider adopting the Educational Testing Service’s ICT Literacy Assessment Core Academic Assessment to gauge incoming freshmen’s information literacy competencies. While this test will not reveal the full breadth or depth of students’ information literacy skills, it can play an instrumental role in promoting information literacy among college-bound students. When secondary school administrators realize that a test exists, they are likely to take information literacy more seriously and offer greater support to school library media centers. Second, more collaboration needs to occur among content-area teachers, SLMSs, and academic librarians, to help students and teachers see the link between library research skills and college preparedness. Recommendations for collaborative activities between academic and school librarians are laid out in the “Blueprint for Collaboration.”<sup>28</sup> Third, information literacy education should be incorporated into pre-service teacher training curricula, and academic librarians should consider proposing and teaching information literacy courses, even if it means moonlighting as an adjunct education professor. Students who will enroll in such courses—primary and secondary teachers of the future—are in a unique position to enhance students’ information literacy skills, because they see students on a daily basis, have access to SLMSs (unless their institution does not employ one), and are more likely than SLMSs to become administrators later in their careers (with the power to support school library media centers and employ librarians to work in them). Finally, it is highly recommended that schools adopt a pedagogy rooted in authentic, inquiry-based learning. As Barbara K. Stripling,

a former AASL President, states, "School library media specialists must begin forging a new vision of school libraries ... expectations for depth of thinking and intellectual engagement must be set much higher." She describes a culture of learning in which librarians work with teachers to infuse information literacy into every class and every lesson throughout the school, where students independently

pursue intellectual questions,<sup>29</sup> rather than regurgitating information fed to them for the primary purpose of passing achievement tests. Once such a culture can be realized, more students will enter college with a basic grounding in information literacy skills, affording academic librarians the opportunity to introduce a greater number of students to advanced information literacy concepts.

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**APPENDIX**  
**Library Media Specialists' Perceptions of Information Literacy Instruction  
 and Achievement**

1. What school district do you represent?

City: \_\_\_\_\_ State: \_\_\_\_\_

2. At your school, what percentage of the student population is minority? Please choose the most applicable response, below:

0%     1–25%     26–50%     51–75%     76–99%     100%

3. Which of the following best describes your school?

urban     rural     suburban

4. Which of the following is available in the library media center at your school? Please check all that apply:

<input type="checkbox"/> Internet access	<input type="checkbox"/> online subscription databases
<input type="checkbox"/> wireless network	<input type="checkbox"/> scanner
<input type="checkbox"/> multimedia projector	<input type="checkbox"/> analog video camera
<input type="checkbox"/> digital still camera	<input type="checkbox"/> digital video recorder
<input type="checkbox"/> video editing tools (digital)	<input type="checkbox"/> video editing tools (linear)
<input type="checkbox"/> CD-ROM burner	<input type="checkbox"/> DVD-ROM burner
<input type="checkbox"/> CD player	<input type="checkbox"/> DVD player
<input type="checkbox"/> audiocassette tape player	<input type="checkbox"/> VCR current print reference
<input type="checkbox"/> current CD-ROM reference material (within 3 years)	material (within 3 years)

5. What is the average age of your monograph (book) collection?

Enter the 4-digit year: \_\_\_\_\_

6. What is the computer-to-student ratio (for a given class) in the library media center? Enter the count as digits in the text boxes below:

\_\_\_\_\_ computers to \_\_\_\_\_ students

7. On which type of scheduling does your library operate? Please choose the most applicable response, below:

fixed     flexible     block     other. Please list: \_\_\_\_\_

8. What percentage of teachers brings their classes to the library for formal instruction?

Please choose the most applicable response, below:

0%     1–25%     26–50%     51–75%     76–99%     100%     don't know

9. What subject areas are *most* represented among classes brought to the library for formal instruction? Please check **ONLY TWO**:

mathematics     language arts     visual and performing arts  
 science     social studies     other. Please list: \_\_\_\_\_

10. What subject areas are *least* represented among classes brought to the library for formal instruction? Please check **ONLY TWO**:

mathematics     language arts     visual and performing arts  
 science     social studies     other. Please list: \_\_\_\_\_

11. What percentage of the library's operating time is dedicated to the delivery of formal (whole-class) library instruction, annually? Please choose the most applicable response, below:  
 0%    1–25%    26–50%    51–75%    76–99%    100%    don't know

12. What percentage of the library's operating time is dedicated to the delivery of informal, one-on-one reference assistance or instruction? Please choose the most applicable response, below:  
 0%    1–25%    26–50%    51–75%    76–99%    100%    don't know

13. Of the students who come to the library to work on an assignment, what percentage has been given the freedom to generate their own research topic or thesis statement (as opposed to researching a teacher-constructed topic or thesis statement)? Please choose the most applicable response, to the best of your knowledge, below:  
 0%    1–25%    26–50%    51–75%    76–99%    100%    don't know

14. Over the course of their high school career, how thoroughly do you address the following skills with most students who come to the library for formal instruction?

**Please carefully consider each skill listed below, and use the following scale:**

1 = least thoroughly (not at all), and 5 = most thoroughly

a. Developing a thesis statement	1	2	3	4	5
b. Brainstorming broad and specific questions related to a topic or thesis statement	1	2	3	4	5
c. Exploring and identifying the value of resources in a variety of formats (book, periodical, Internet, video, audio recording, CD-ROM)	1	2	3	4	5
d. Differentiating between primary and secondary resources	1	2	3	4	5
e. Selecting appropriate resources, in scope and content, to satisfy a specific information need or task	1	2	3	4	5
f. Identifying keywords, synonyms, and related terms describing information needed	1	2	3	4	5
g. Constructing a search query, using Boolean operators (AND, OR, NOT, +, -), in a variety of information retrieval systems	1	2	3	4	5
h. Constructing a search query, using truncation characters or wildcards (*, \$, ?), in a variety of information retrieval systems	1	2	3	4	5
i. Identifying gaps in information retrieved and revising search strategies as needed	1	2	3	4	5
j. Recognizing the authority, accuracy, timeliness, and bias of a wide variety of sources	1	2	3	4	5

k. Consulting resources representing a wide range of viewpoints	1	2	3	4	5
l. Discerning the background and cultural context of presented information	1	2	3	4	5
m. Investigating footnotes, suggested resources, hyperlinks, or cited references	1	2	3	4	5
n. Using technologies (spreadsheets, graphs, maps, images, databases) to conduct comparative analyses of information retrieved	1	2	3	4	5
o. Selecting and organizing content (through note taking, storyboarding, outlines, or drafts) to support and enhance a final product or presentation	1	2	3	4	5
p. Synthesizing knowledge and skills gained from prior experience with new knowledge	1	2	3	4	5
q. Using technology to manipulate various media (images, text, sound, video) in print, analog, and digital formats	1	2	3	4	5
r. Effectively communicating a final product or presentation using a style that suits both the message and the intended audience	1	2	3	4	5
s. Distinguishing between fee-based and free online resources	1	2	3	4	5
t. Defining and analyzing issues of privacy, censorship, and freedom of speech	1	2	3	4	5
u. Applying copyright and fair use guidelines to the acquisition, use and distribution of information	1	2	3	4	5
v. Avoiding plagiarism and documenting sources using an appropriate citation style	1	2	3	4	5
w. Demonstrating behaviors (use of passwords, netiquette, respect for intellectual property, use of equipment) in compliance with institutional policy	1	2	3	4	5

15. If you answered 1 or 2 (least thoroughly) for any of the above-mentioned skills, please briefly discuss why, using the space below:

16. To the best of your knowledge, how well can most high school seniors at your school, who have received formal library instruction, perform the following tasks?

Please carefully consider each task listed below, and use the following scale:  
1 = least well (not at all), and 5 = most well (expertly)

a. Developing a thesis statement	1	2	3	4	5
b. Brainstorming broad and specific questions related to a topic or thesis statement	1	2	3	4	5
c. Exploring and identifying the value of resources in a variety of formats (book, periodical, Internet, video, audio recording, CD-ROM)	1	2	3	4	5
d. Differentiating between primary and secondary resources	1	2	3	4	5
e. Selecting appropriate resources, in scope and content, to satisfy a specific information need or task	1	2	3	4	5
f. Identifying keywords, synonyms and related terms describing information needed	1	2	3	4	5
g. Constructing a search query, using Boolean operators (AND, OR, NOT, +, -), in a variety of information retrieval systems	1	2	3	4	5
h. Constructing a search query, using truncation characters or wildcards (*, \$, ?), in a variety of information retrieval systems	1	2	3	4	5
i. Identifying gaps in information retrieved and revising search strategies as needed	1	2	3	4	5
j. Recognizing the authority, accuracy, timeliness and bias of a wide variety of sources	1	2	3	4	5
k. Consulting resources representing a wide range of viewpoints	1	2	3	4	5
l. Discerning the background and cultural context of presented information	1	2	3	4	5
m. Investigating footnotes, suggested resources, hyperlinks, or cited references	1	2	3	4	5
n. Using technologies (spreadsheets, graphs, maps, images, databases) to conduct comparative analyses of information retrieved	1	2	3	4	5



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o. Selecting and organizing content (through note taking, storyboarding, outlines, or drafts) to support and enhance a final product or presentation	1	2	3	4	5
p. Synthesizing knowledge and skills gained from prior experience with new knowledge	1	2	3	4	5
q. Using technology to manipulate various media (images, text, sound, video) in print, analog, and digital formats	1	2	3	4	5
r. Effectively communicating a final product or presentation using a style that suits both the message and the intended audience	1	2	3	4	5
s. Distinguishing between fee-based and free online resources	1	2	3	4	5
t. Defining and analyzing issues of privacy, censorship, and freedom of speech	1	2	3	4	5
u. Applying copyright and fair use guidelines to the acquisition, use and distribution of information	1	2	3	4	5
v. Avoiding plagiarism and documenting sources using an appropriate citation style	1	2	3	4	5
w. Demonstrating behaviors (use of passwords, netiquette, respect for intellectual property, use of equipment) in compliance with institutional policy	1	2	3	4	5

17. If you answered 1 or 2 (least well) for any of the above-mentioned tasks, please briefly discuss why, using the space below:

18. How would you describe the general attitude among most students toward the value of libraries to their learning, research, or personal development? Please choose the most applicable response, below:

Very Positive     Positive     Neutral     Negative     Very Negative

19. Do you think most students at your school are achieving desired levels of information literacy at a pace appropriate for the 21st century? Please choose the most applicable response, below:

Yes     No     Don't know

20. Additional Comments (brief descriptions of successful experiences, or any other comments relating to the questionnaire are welcome):

This survey is based on the ACRL Information Literacy Competency Standards. Thank you for your input.