Library Exposure from the Prior Years: An Examination of Public High School Library Websites

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A B S T R A C T

The frequent occurrence of first-year college students showing disinterest and unfamiliarity with basic library resources is a phenomenon experienced by many academic librarians. This article aims to increase understanding of student exposure to the school library, prior to college arrival, by examining the online information and tools from high school libraries. Four hundred ninety-seven (497) public high schools from New York City were surveyed for 1) online presence of their school library programs and 2) the extent of information featured on these school library websites. Findings indicate that many public high schools have not adequately embraced web development for the purpose of educating students about information literacy.

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I N T R O D U C T I O N

The frequent occurrence of first-year college students showing disinterest and unfamiliarity with basic library resources is a phenomenon experienced by many academic librarians (Islam & Mumo, 2006, p. 492). Todd (2008) elaborated on the observed biases of college students toward using library research tools: they tend to bypass resources in their libraries and resort to popular search engines such as Google for most research purposes, developing preference for natural language-searching through self-generated tags and keywords, rather than the vocabulary of subject headings intrinsic to libraries, and, in turn, identifying these acquired habits and experiences as the quintessential research process (p. 23). Other studies have taken the next steps to examine this research process, uncovering some of the weaknesses exhibited by students in evaluating information effectively: in general, the students’ online skills are far less developed than previously thought, coupled with a poor conceptual understanding of the extent of searchable information open through Google and the likes (Fuller, 2005, p. 27; Hardesty, 2007, pp. 35–36; Harris, 2003, p. 219; Valenza, 2007, p. 212).

The Cooperative Institutional Research Program’s 2011 American Freshman Survey provides the demographics for students entering American colleges and universities full-time: about 80% of them came through the public school system (p. 19); over 80% cited regularly using the Internet for research or homework (p. 26); yet, about 40% felt that they could evaluate the reliability of their information (p. 28), with less than 40% confident about their computer skills (p. 27), and a meager 25% admitted to knowing how to look up scientific articles and resources (p. 28). There are those in educational research most vocal about the disparity in the requirements for graduating from high school and general admission into college (Greene & Forster, 2003, p. 3; Haycock, 2010, p. 15; Roderick, Nagaoka, & Coca, 2009, pp. 187–189), especially when more than a quarter of college students are required to take remedial coursework in their first years (Bill & Melinda Gates Foundation, 2008, p. 3; Tierney & García, 2008, p. 2).

Recognizing the role that information literacy plays in most students’ college success, this article aims to increase academic librarians’ awareness of the students’ exposure to the school library in the high school years — in the aspect of online information and tools from their high school libraries. Taking an empirical approach, four hundred ninety-seven public high schools from New York City were surveyed for 1) online presence of their school library programs and 2) the extent of information featured on the school library websites.

LITERATURE REVIEW

The review of literature reveals that studies on school library websites can largely be summarized into three areas: 1) those promoting “virtual libraries” as the next-generation school libraries fostering information literacy for students and teachers alike; 2) those offering expert advice on web design and development, based on assessments of the needs of high schools and high school libraries; and, to a lesser degree, 3) empirical data on the state of school library websites delineating the strengths and deficiencies evidenced by students and other users in the secondary school community.
**BEYOND SPACE AND TIME**

There were educators adamant about revamping the image and role of the high school library and librarian; and for many, an effectively developed website became both objective and signifier for the school library making the technological leap forward (Australian School Librarian Association, 2008; Hauser, 2007; Herring, 2011a; Raven, 2006). Riding on the coattails of the blended learning movement of colleges and universities to redesign their distance learning programs at the time (Garrison & Kanuka, 2004; Singh & Reed, 2001; Voos, 2003), these educators sought similar applications of the technology in the secondary school environment and began examining the implications of a school library, disembodied from the classroom, for their learning community (Lamb & Johnson, 2008, para. 4–10). The school library would too be re-conceptualized as a blending of the physical and virtual elements, no longer one static workspace where information resources were kept and organized (Todd, 2011, p. 64). The Web would extend the school librarian's reach to unlimited students and encourage asynchronous learning through the innovation of traditional functions such as reference and instructional support (Valenza, 2007, p. 207). By providing links to important tools and resources, the school library website would reduce the time students use to search for information, and allow them to focus on reading and thinking about it (Bussiere, 2006, p. 21). As the main access point, the school library website would represent the brave new school library. Primed with hope and aspiration, there were numerous works in this vein apparent in the literature, reflecting on the directions for school libraries and librarians.

The ideology as expressed by one scholar:

> [Y]our library web page is your second front door. It meets your students where they live, and play, and work, with 24/7, just-in-time, just-for-me support and intervention. It creates online signage for students and staff. It projects the image of the librarian as a 21st century teacher and information professional.

[As cited in Heit (2008, p. 23)]

**PAVING THE ROAD**

Alongside the trailblazers with works to motivate and inspire the school community, there were also educators concentrating on helping school libraries to transition, with practical guidance on developing a useful library website (Herring, 2011b; Scheeren, 2010). Matching pace with the improvements in web technologies, the studies on valuable features and items on a school library website constituted a steady stream in the literature over the years (Baumbach, Brewer, & Renfroe, 2004; Church, 2006; Clyde, 2002; Jurkowski, 2004). Recommendations in this category, however, were often based on personal, anecdotal observations in lieu of actual statistics. Analytical research into the rankings of website features and components (i.e. by frequency of usage in a population of school libraries) was few and far between, limited to those for school websites (Harthorne, Friedman, Algozine, & Isibor, 2006; Hill, Tucker, & Hannon, 2010; Miller, Adsit, & Miller, 2005), with only one on school library websites found (Jurkowski, 2004).

To identify the contents of school library websites, Kanazawa created her CIRRI model, which classified all contents according to primary functions deemed useful for the school library (Kanazawa & Maruyama, 2008; Kanazawa, Maruyama, & Motoki, 2011): Core contents such as the library address and hours; Information access such as to the online catalog and database systems; Research tools such as those teaching students citation and writing; Reference support for students to learn about the library and how to locate resources; and Instructional support offering library guidance on class projects and assignments. Other research in web development included those interested in the legal aspect of copyrighted logos and trademarks on a school library website (Johnson, 2005) and the target marketing of website contents, e.g. to students of specific grades or reading levels rather than the entire spectrum regardless of user relevancy (Herring, 2011b, pp. 22–23). For school libraries about to start website development, there is much of shared knowledge and support in the literature to intrigue anyone regardless of his or her technological background.

**THE STATE OF BEING**

Despite the works bringing to the school community the desired vision and encouragement, there is a dearth of knowledge about the actual landscape of high school libraries in: 1) the percentage going virtual to establish web presence successfully; 2) how high school library websites have fared in the quantity and quality of library resources available against the checklist of expert recommendations for such websites; and ultimately 3) the impact these library websites have on improving the students' skills in research and information literacy. The handful of works published suggests the challenge of gathering data samples significant enough for meaningful analysis into the population of high school libraries, particularly those in the public school systems. Devoted to an international perspective, Clyde (2004) analyzed the websites of fifty school libraries from nine different countries for broad trends across the field, finding too much variety in the library websites, in terms of the aims and purposes for which they were created, and even the users for whom they were intended. Clyde reasoned that most school library websites were developed without adequate attention to their uses and audiences, thus limiting much of their potential usefulness to school libraries. Clyde's efforts were followed by two other studies, albeit on a more domestic, local level: one by Baumbach (2005), who sampled one hundred school library websites (32 elementary school, 20 middle school, 39 high school, 9 other combinations) and found her results confirming much of Clyde’s (p. 9); and another by Jurkowski (2004), who investigated thirty-four school library websites from the state of Missouri to provide more of a snapshot of prevalent website functions and features ranked by frequency. The more extensive study came in 2008 when Meyers and Eisenberg surveyed nine hundred thirty-nine high school freshmen in five Washington (state) schools about the relationship of the students' information-seeking behaviors to their school library websites. Their alarming discovery was that although the students were online in record numbers, they were using Google or other search engines to research on periodical literature, as opposed to the school library websites despite the full-text periodical databases available there. Unless the class assignments required use of the library website, the students would otherwise skip over it as a personal tool (p. 12). They also associated their school libraries and librarians with finding books only (p. 9). There were two other studies in the literature on the quality of websites, e.g. on a school level rather than the school library: Miller, Adsit, and Miller (2005) with their analysis of the school websites for seventy elementary schools in Georgia, which concluded low rates of effectively-developed websites (pp. 38–39); and Hill, Tucker, and Hannon (2010) who reported on similarly low rates for effectively-developed websites as well as user utilization in a sample of two hundred eighty-five middle and high schools in Southern California (p. 17).

There are gaps in the literature for continuing investigations into the quality of school library websites, as students increasingly adapt to life on the Web and, more than ever, are in need of learning about online research and information literacy. More understanding into the extent to which the school library website plays in students’ online education would be beneficial for librarians in both the secondary and postsecondary school settings.

**CURRENT INVESTIGATION**

As the largest public school system in the United States, New York City is unquestionably a center of contemporary efforts in education and educational reform. The breadth of school offerings makes it necessary for local residents to assess the quality of individual schools
before enrolling in their children. The City provides school-level data of all public schools on its Department of Education (DoE) website. The present study can be described in two stages: merge data from the school progress reports on the DoE website to derive an updated listing of the public high schools serving the City; second, perform a content analysis of the school and school library websites for the listed high schools to help determine the following questions:

1) What kind of web presence have the high schools established, through either their school or school library websites, to provide high school students with library tools and resources?
2) Are there important differences in the library tools and resources for users on the school library websites, between various schools?
3) What are the most, and the least, frequently adopted library tools and resources on the school library websites for high school students?

It must be acknowledged that the high schools in the selection are by no means statistically representative of all high schools in the country. It is, nevertheless, a reasonable attempt to provide a more up-to-date profile of high schools in urban public school systems, like the City’s, from which a significant number of the first-year students in U.S. colleges and universities originate.

**METHODOLOGY**

**SAMPLE SELECTION**

The City’s DoE website discloses information for all public schools on a timely basis. For the study, the 2011–12 progress reports with citywide results were downloaded from its School Accountability Tools web section (Department of Education [DoE], n.d. [a]) and used to create a spreadsheet in MSExcel™ containing the names of public high schools and basic school data such as their district ID codes and enrollment sizes. Other variables used for data collection were subsequently added onto the coding sheet, as detailed below.

**VARIABLES AND MEASURES**

**SCHOOL CATEGORIES**

In order to classify the high schools into appropriate school categories for later analysis, they were labeled with a categorical variable “School Category” (see Table 1). These school categories are part of the overall trend in K-12 school reform for the last decade: school size being scaled down to make way for smaller, congenial learning environments in which students could receive more personalized focus from both faculty and staff (Hemphill, 2007, p. xiii; Martinez & Klopott, 2005, p. 5). One school can have more than one school category, since one large school building can suitably harbor “four or five ‘mini-schools,’ each with its own principal” (Hemphill, 2007, p. 3). The information on Table 1, along with the school names by school category and admissions criteria, was retrieved from: the DoE website (DoE, n.d. [b], [c]); and two studies of small schools in the City (Bloom, Thompson, & Unterman, 2010, pp. 131–134; New York Immigration Coalition & Advocates for Children of New York, 2006, pp. 44–53).

**SCHOOL WEBSITES**

The high schools were then individually checked against a search engine for high schools at Insideschools [http://insideschools.org], an independent organization publishing data on public schools in the City. The organization’s school data profiles contained information such as the URL link to the school website. For high schools that did not have URL links to their school websites posted on Insideschools, Google was used as the alternative method to find the address. The websites for individual departments, teams, or other special groups of the school were discarded. Data were coded using the variable “School Web Presence” with dichotomous outcomes: 1 = having a school website and 0 = not having a school website.

Another categorical variable “School Website Design” was utilized to provide data on the extent of development on each school website, whether its design was basic or upgraded. “Basic” referred to a school website whose primary function was for the promotion of the school name to advance admissions and donations. The “Upgraded” school websites were more developed, exhibiting features that enabled the school’s academic departments and personnel, including the school library, to broadcast internal functions and interplay with students, parents, and other constituents.

**SCHOOL LIBRARY WEBSITES**

Data on the existence of school library websites for high schools were captured using a numerical variable “School Library” with four codes for interpretation: 0 = high school without a publicly-accessible school library website; 1 = high school with a school library website on the DoE’s school library network Destiny (library.nycenet.edu), which provided member school libraries the web space to host library tools and resources; 2 = high school with designated web space on the school website for its school library to host library tools and resources; 3 = high school with its school library website separate from the school website and DoE’s Destiny. High schools could be marked with more than one library code, due to the presence of high schools with school libraries hosting library information at multiple locations.

For high schools with school libraries not having designated space on the school website (those with School Library $\neq 2$), there was need for another variable “Library Link” to describe the existence of a connection between the school website and the school library website. Data were collected to indicate whether online users were able to access the school library website directly from the school website (1 = high school with school website having library link; 0 = high school with school website not having library link).

Additionally, there were high schools in the selection that had to pool in resources to form partnerships with other schools to own a school library, including sharing the school library website. Data for the variable “Library Combo” were coded dichotomously to indicate schools with school library partnership websites (1 = having a partnership website; 0 = not having a partnership website).

**INSTRUMENTATION**

A checklist of essential features on a school library website was compiled after the literature review for the most tried and tested items recommended by experts. A measuring instrument, comprised of twenty-two items, was developed for use in evaluating existing school library websites for high schools in the selection. These items were organized using Kazanawa’s CIRRI Contents Model, with an additional content category: “D” for dynamic tools and library news information (see Appendix). The instrument would measure the presence of items in each of the content categories for any high school with a school library website.

**DATA COLLECTION**

All high schools in the selection coded with school library websites (School Library $\neq 0$) were evaluated using the measurement tool, which was incorporated into the existing spreadsheet of school data. Measurement for each high school was recorded onto the spreadsheet with both the subtotal scores for individual content categories and the total website score calculated. When data collection was completed, all school-level scores were further aggregated according to category item, content category, and website total to enable meaningful analysis of the high schools by school size (student head counts), school categories, and distinctive features such as the partnership websites. To ensure data consistency, the entire coding and analysis process was repeated twice, first in July 2012 and again in December 2012.
Table 1
List of school categories for New York City public high schools by number of schools and other distinguishing school characteristics.

<table>
<thead>
<tr>
<th>School category</th>
<th>Number of schools</th>
<th>Median student enrollments</th>
<th>Category description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small</td>
<td>202</td>
<td>363</td>
<td>Newest among programs, they are small, usually with about 500 students, and focus on three core principles: academic rigor, personalization, and community partnerships.</td>
</tr>
<tr>
<td>iZone</td>
<td>99</td>
<td>404</td>
<td>Schools that emphasize personalized learning. Students, whether one-on-one with a teacher, in small groups, in online environments, or through internships, have customized learning plans based on individual pace and preferences.</td>
</tr>
<tr>
<td>Transfers</td>
<td>50</td>
<td>213</td>
<td>Designed to re-engage students who have dropped out or fallen behind, they provide small, personalized learning environments that emphasize college and career readiness.</td>
</tr>
<tr>
<td>Comprehensive</td>
<td>45</td>
<td>976</td>
<td>The choice for the majority of youths, they are zoned schools that admit without lottery or selection criteria. Large and more impersonal than other programs, they are the model of traditional teaching and learning.</td>
</tr>
<tr>
<td>Small Learning Communities (SLC)</td>
<td>37</td>
<td>507</td>
<td>They are typically between 250-450 students, and set within large, comprehensive schools. Students in the program work closely with a core group of teachers and adults, and develop strong relationships that encourage personal growth and learning.</td>
</tr>
<tr>
<td>Career and Technical Education schools (CTE)</td>
<td>32</td>
<td>669</td>
<td>Students in this program have a concentration in industry-specific skills and competencies, i.e. veterinary science, carpentry, nursing, etc., for entry into workforce or postsecondary education.</td>
</tr>
<tr>
<td>Selective</td>
<td>28</td>
<td>526</td>
<td>Less stringent than the specialized schools but more selective than other schools, seats to these schools are often limited and students are admitted based on a school-defined set of criteria involving a combination of high exam scores, attendance or other special requirement.</td>
</tr>
<tr>
<td>Charter</td>
<td>26</td>
<td>219</td>
<td>Schools with their own Board of Trustees, hence greater control of policy design and personnel management. They operate on five-year performance contracts, and are encouraged to be more innovative in teaching methods. Students are admitted through a lottery.</td>
</tr>
<tr>
<td>New immigrants</td>
<td>11</td>
<td>401</td>
<td>Schools that offer students of newly arrived, immigrant families the small, personal environments to learn the English language comfortably, while preparing other skills and competencies.</td>
</tr>
<tr>
<td>Specialized</td>
<td>9</td>
<td>1104</td>
<td>Highly selective, designed for the academically gifted. Some schools admit students based on their score on a competitive admissions exam, and others on special performances or auditions.</td>
</tr>
<tr>
<td>Total schools</td>
<td>497</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Note: Some schools belong to more than one school category.

RESULTS

Findings from the study of four hundred ninety-seven public high schools in New York City provide strong indication that many high schools have not adequately embraced web development for the purpose of school-wide, or school library, communications educating their students about information literacy. The high schools exhibited varying interests in and priorities for establishing these websites, with the use of the technology in student information learning absent of consensus understanding among the personnel developing school websites and those developing for school library websites.

What kind of web presence have the high schools established, through either their school or school library websites, to provide high school students with library tools and resources?

Table 2 shows the frequencies of high schools with publicly accessible school and school library websites, separated into school size categories. The categories confirm the trend in secondary education toward creating smaller schools. This trend can also be disadvantageous insofar as smaller schools have less allocated for web development. The number of small schools may be greater, but the possibility that the schools have resources for building school or school library websites for online research and information literacy is much lower. Even when school websites are present, there is more possibility that they are basic in design and development, sufficient for promoting school awareness, as opposed to improving school-wide operations and interfaces for the learning community. The frequencies of smaller schools having school library websites besides school websites are expectedly even lower.

In general, less than a third of high schools have school websites featuring links to their school libraries (Library Link | All Schools = 28%). Since the percentage of high schools with school library websites is comparatively higher (School Library | All Schools = 61%), this indicates that in a significant number of schools, the school personnel developing the school websites are not collaborating effectively with those developing school library websites, i.e. the school librarians. For high schools with school library websites, the vast majority participate in DoE’s Destiny system. As a result, individual school library websites share a common display appearance as well as many library information tools and resources, not to mention a central OPAC. Schools having designated space on their school websites for library resources constitute a smaller percentage (School
The development percentages of individual content categories indicate the primary functions for school library websites by priority: contents for “information access” are the most important, while contents for “reference support” are the least. In other words, high schools with school library websites concentrate on developing contents for students’ direct access to library resources only, and shy on developing contents that increase students’ awareness of their school libraries or educate them about the proper use of library resources. Respective to total content, the school library websites are far less developed than one might expect (Total ContentsAll Schools = 30%). Even the “specialized” high schools, with the highest total content development percentage, show optimized development (>50%) in only two of six content categories. It is also notable that the “charter” schools with school library websites (8% of total charter schools) exhibit a total content development percentage on par with that for “specialized” schools. However, since their number is exceedingly small (n = 2), it must be emphasized that the achievement is more likely attributed to the uniqueness of the personnel developing the school library website, and less due to the circumstance of the schools being in the “charter” category.

What are the most, and the least, frequently adopted library tools and resources on the school library websites for high school students?

Table 5 lists the frequency rates for all twenty-two items in the measuring instrument used for website evaluation, in descending order. This makes apparent that most school library websites of the high schools in the study have been developed for the primary purpose of connecting online users to the online library catalog, essentially associating school libraries with predominantly their book collections. After the online catalog is made available, the next items appearing on the school library websites, more often than not, are those enabling online users to access
mands that visiting students and other users know about their school libraries and are self-sufficient without the need for assistance. It is open to question, therefore, the quantity of online users from the school community who are in this group, as compared to the number who, yet unfamiliar with library resources and operations, learn to associate these school library websites as their main source of library exposure.

DISCUSSION AND LIMITATIONS

The results of the study offer an opportunity for active discussion of one facet of many incoming college students’ prior exposure to libraries — through their school library websites. Evaluated solely on the criterion of providing information access to online users, these websites might be considered bearably satisfactory. Evaluated on whether they cultivate for their students and other users the ability to access, evaluate, and use information as part of bibliographic instruction, however, the school library websites are found to be disproportionately underdeveloped for the task of helping to bring about such awareness.

According to the Pew Research Center’s Internet and American Life Project Tracking Surveys, 88% of American adults who graduated from high schools in 2011 stated familiarity with online searching (p.13), more than 50% are online wirelessly (p. 15), and for those living in urban areas, 50% by February 2012 are also smartphone carriers who have constant access to the Web (p. 17). This may indicate that a large population of young people have learned how to seek web resources on school or class subjects and the periodical databases subscribed by the school libraries. In this regard, the school library website functions more as a bibliography or desk reference to most school libraries by providing online access to key information resources.

All other items recommended by library professionals are infrequently featured on the school library websites in the study. Fewer than half of the existing school library websites feature additional resources such as citation tools and links to public libraries. Items in the “core” content category allow students and other patrons who have not visited their school libraries to learn about the library, its locations, hours, and policies, in addition to the personnel, equipment, and services available to them. Since these items are featured on less than half of the websites, it is indication that, in general, the school library websites are created for library users having some type of prior experience with or directions from their school libraries to visit and use specific online resources, and not for those new to their school libraries and are searching online for library information and learning.

Most of the twenty-two items have frequency rates below 30%, with those providing online instruction or orientation for library tools and resources at less than 10%. It is clear that the school library websites for many high schools have fallen short in the potential uses for these websites to communicate about library awareness. The inadequate presentation of library information on many school library websites demands that visiting students and other users know about their school libraries and are self-sufficient without the need for assistance. It is open to question, therefore, the quantity of online users from the school community who are in this group, as compared to the number who, yet unfamiliar with library resources and operations, learn to associate these school library websites as their main source of library exposure.

### Table 4
The extent of development of existing school library websites by school category and content category.

<table>
<thead>
<tr>
<th>Category</th>
<th>Core Content</th>
<th>Information Access</th>
<th>Research Tools</th>
<th>Reference Tools</th>
<th>Instructional Tools</th>
<th>Dynamic Content</th>
<th>Total Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>SLC</td>
<td>33%</td>
<td>62%</td>
<td>39%</td>
<td>11%</td>
<td>36%</td>
<td>23%</td>
<td>37%</td>
</tr>
<tr>
<td>Specialized</td>
<td>49%</td>
<td>69%</td>
<td>61%</td>
<td>43%</td>
<td>48%</td>
<td>38%</td>
<td>53%</td>
</tr>
<tr>
<td>Comprehensive</td>
<td>46%</td>
<td>62%</td>
<td>33%</td>
<td>12%</td>
<td>25%</td>
<td>18%</td>
<td>36%</td>
</tr>
<tr>
<td>Selective</td>
<td>36%</td>
<td>42%</td>
<td>20%</td>
<td>24%</td>
<td>13%</td>
<td>21%</td>
<td>28%</td>
</tr>
<tr>
<td>CTE</td>
<td>39%</td>
<td>59%</td>
<td>28%</td>
<td>10%</td>
<td>26%</td>
<td>22%</td>
<td>34%</td>
</tr>
<tr>
<td>iZone</td>
<td>31%</td>
<td>46%</td>
<td>29%</td>
<td>13%</td>
<td>19%</td>
<td>18%</td>
<td>29%</td>
</tr>
<tr>
<td>Small</td>
<td>25%</td>
<td>49%</td>
<td>25%</td>
<td>12%</td>
<td>17%</td>
<td>15%</td>
<td>26%</td>
</tr>
<tr>
<td>New immigrants</td>
<td>24%</td>
<td>68%</td>
<td>25%</td>
<td>7%</td>
<td>13%</td>
<td>7%</td>
<td>28%</td>
</tr>
<tr>
<td>Transfers</td>
<td>23%</td>
<td>52%</td>
<td>25%</td>
<td>17%</td>
<td>19%</td>
<td>19%</td>
<td>28%</td>
</tr>
<tr>
<td>Charter</td>
<td>90%</td>
<td>80%</td>
<td>50%</td>
<td>0%</td>
<td>17%</td>
<td>33%</td>
<td>52%</td>
</tr>
<tr>
<td>All Schools</td>
<td>32%</td>
<td>53%</td>
<td>29%</td>
<td>14%</td>
<td>21%</td>
<td>18%</td>
<td>30%</td>
</tr>
</tbody>
</table>

Note: Optimized development (>50%) in bold.
information online by the time they enter college, but focus group research on high school teenagers, particularly in low-income households, has found that they would overwhelmingly consult friends or younger siblings, readily referring them as the ones introducing them to online tools and websites and helping them learn (Greenhow, Walker, & Seongdok, 2009, p. 65). Their acknowledgement of others in the role as dominant teacher underscores a gap in perception between the students and many educators over what hitherto is the domain of the school library, described as: 

[A] knowledge commons that both intersects with and bridges the digital and print terrain, and provides the intellectual tools across the multiple environments to foster creativity, to enable young people to develop their own personal knowledge and understanding of the curriculum, the world and themselves, to interpret and apply the knowledge they interact with, and to foster the intellectual, social, and culture growth of our young people (Todd, 2008, p. 30).

The vision for school libraries cannot be overlooked in the quotation, and supporters such as the American Association of School Librarians and the American Library Association have equally sought to reinforce the role that school library professionals have in providing the programs and instructions to integrate essential information skills into the school curriculum for the learning needs of their students (Harris, 2003, p. 217). There is indication from students themselves that they highly value school librarians to offer more individual and class instructions such that they learn the skills and tools for information literacy and critical thinking (Todd, 2008, p. 20). In a study of eighty-two public high schools in Chicago, Holland and Farmer-Hinton (2009) concluded that for many students, enrollment and success in postsecondary institutions depended on the availability of school programs that help provide an understanding of and preparations for college culture, whether or not these programs were integral to the schools’ main programming (p. 30).

Nevertheless, the stark reality in many public high schools, especially in urban centers like New York City where the majority of students are from minority groups and/or low socioeconomic backgrounds, has consistently been a shortage of funding for personnel and resources that help students develop for college (American Association of School Librarians, 2012, pp. 5–8; Cooper & Liou, 2007, pp. 43–45; Holland & Farmer-Hinton, 2009, p. 25; Reinhart, Thomas, & Toriske, 2011, pp. 190–191). The Islam and Murno (2006) survey distributed to school librarians brought to light many of the troubling aspects facing high school libraries across the country. Some of the concerns were: “among teachers, the great concern is students passing standardized tests needed for graduation — all others, including information literacy skills, take a back seat”; “teachers are not constructing assignments that promote the use of library print or online resources”; “one librarian for 1,600 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” (p. 502). They found that even though almost all the school librarians (99.03%) indicated that their school libraries provided access to the Web for online searching and library resources (p. 502), only a marginal percentage of the teachers (up to 25%) actually brought their classes to the school libraries for formal instruction (p. 505). Furthermore, the teachers were likely to be teaching language arts and social studies, while those of subjects like mathematics, science, and the arts generally placed less demand for their students to frequent school libraries and become familiar with library resources (p. 503). They concluded that although students might have been provided with access to library facilities, they also had been neglected of the necessary instructions that let them become truly knowledgeable about their proper use (p. 505).

Similar findings by Pribesh, Gavigan, and Dickinson in their 2011 study reaffirmed the existence of a digital divide for school libraries in areas with a concentration of poverty: there were obvious differences in staffing, the size of book collections, and the number of operating hours and days in the year (p. 144). For public schools where over 50% of the students received free or reduced-priced lunches, there was likely only one full-time school librarian responsible for library instructions to students and faculty of the school, whereas schools with lower percentages of students receiving free or reduced-priced lunches generally had more than one full-time librarian (p. 150). In New York, in particular, data suggest that the more exact librarian-to-student ratio is about one librarian for every 2146 students in the public schools, with at least 386 schools for grades 6 through 12 not having any librarian on staff at all (Santos & Gebeloff, 2011, p. 2).

Without sufficient, qualified staff in the school libraries to provide the quantity and quality of library instruction demanded by their school communities, many of the students graduating from public high schools and coming onto college and university campuses are likely to be learning about online information tools and resources in their academic libraries for the first time. Their minimal library awareness also puts them in a position of disadvantage when they are required to locate and critically evaluate the information from online sources crucial for academic studies.

The evaluation of school library websites for high schools in the present study further underlines the de-emphasis of library instruction in the overall web presence of school libraries for many secondary schools. The majority of the school library websites function more like online bibliographies, limited to the display of links to library resources and other useful outside websites, with few developed to the extent that they offer online users any form of virtual guidance or instructional support for information research using the tools and resources, online or otherwise, of their school libraries.

It should be mentioned that a large number of the existing school library websites are also partnership websites for schools combining their resources in order to share a school library. Many of these school library partnership websites do not specify even basic library information, such as its location, personnel contact, and operating hours for online users. Neither do they separate resource links according to the school, grade, or class using them. School library partnership websites for partnering schools of different educational levels, such as those in combination with primary and middle schools, are no clearer in the identification of their information and resources, despite having a wider array of students and other user groups who ought to be using them. What information is available is thwarted by poor web design and layout for these school library websites to be effective resources and companion tools that students can regularly turn to for informational searches and needs.

How much correlation is there between the situation of funding for school libraries in public high schools and findings from the present study on the poor state of development of many of the school and school library websites in use? If additional time and resources were available to more public high school libraries, how much uplift could be expected in the quality of library instruction in key areas of technology use, such as students’ online skills and information literacy that are increasingly part of 21st century fundamental education? Most importantly, do college and university students who begin at a point of disadvantage in terms of library exposure in their high school years learn to overcome the effects of inadequate library and information learning later in their academic lives? These concerns are possible subject areas where more vital research can be completed to broaden the existing literature.

Finally, there are limitations to consider with the present study. It offers the static capture of a dynamic system – the urban, public high school system of New York City – in light of its school organizations, availability of resources, and other socioeconomic conditions. The degree to which these conditions may vary in another locale, region, or state should be emphasized. Furthermore, the study is from the perspective of a researcher who does not have internal access to school systems and strategies as practiced by personnel in the high schools and school libraries, and, as such, the possibility exists that there are alternative
intranets and information networks in use, collectively or individually developed which might be inaccessible through public search engines and websites. The study, accordingly, measures the web presence of publicly searchable information on school libraries for the high schools, with the focus on users of the school community similarly unfamiliar with their school libraries and seeking informational support online.

CONCLUSION

For the academic library community, the present research on school library websites draws attention to the possible effects, directly or indirectly, that the pattern of underfunding school library programs in many public high schools might carry into the observed state of student development and performance in postsecondary bibliographic instruction. Two areas where reform to curriculum need to be addressed: 1) in secondary school, where the role of the school library is overdue for recalculation to become in line with current learning standards particular to students’ skills in information literacy and 2) in postsecondary school, where academic librarians play a more active role in extending the bibliographic instruction programs of their libraries or facilitating information studies to be incorporated into the core college requirements, mindful of the students without adequate library exposure. There can also be opportunity for collaborative efforts between academic librarians and counterparts in the secondary schools to help ease the transition to college for many students. The pace of technology in recent years requires educators of all levels to be innovative in their approaches to ensure that many of their students are not left behind, even before they have begun.

APPENDIX. THE CIRRID CONTENTS CHECKLIST DEVELOPED FOR THE SCHOOL LIBRARY WEBSITE EVALUATION

<table>
<thead>
<tr>
<th>Content category</th>
<th>Items in content category</th>
<th>Points</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Core Contents:</strong> Category examines the degree to which the website displays basic information on the library and its mission and policies</td>
<td>Q1 - Are the library name and location on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q2 - Are the librarian name and contact information on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q3 - Are library hours on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q4 - Is mission statement on the website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q5 - Are library policies and/or resource usage on the website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Information Access:</strong> Category examines the degree to which the website provides access to essential library resources (free and subscription-based)</td>
<td>Q6 - Is there an OPAC?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q7 - Are there electronic databases?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q8 - Links to other/public libraries?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q9 - Links to subject-specific websites?</td>
<td>1 or 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1) = on library site</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2) = on school site</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Research Tools:</strong> Category examines the degree to which the website provides tools and support that help to advance information literacy and research</td>
<td>Q10 - AASL Information Literacy standards on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q11 - Citation advice/tools on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q12 - Search strategies (i.e. boolean operators) on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q13 - Other support (tutorials, videos, etc.) for information research on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Reference Tools:</strong> Category examines the degree to which the website provides reference assistance</td>
<td>Q14 - Reference question form or tool on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q15 - Thematic or assignment-based pathfinders on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q16 - Other guidance tips, info-sheets, FAQs, etc. on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Instructional Tools:</strong> Category examines the degree to which the website features collaborations with and information for teachers</td>
<td>Q17 - Class handouts or assignments on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q18 - Rubrics, lesson plans for teaching?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q19 - Other information for teachers or instruction?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Dynamic Contents:</strong> Category examines the degree to which the website provides dynamic information and/or tools</td>
<td>Q20 - Recommended Reading (books and lists) on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q21 - Is there a last updated date on website?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q22 - Blogs or other Web 2.0 uses and/or library news update?</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

Full score for Core Content category 5 5
Full score for Information Access category 5 5
Full score for Research Tools category 4 4
Full score for Reference Tools category 3 3
Full score for Instructional Tools category 3 3
Full score for Dynamic Content category 3 3

Full score for website 23
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