Academic Libraries and Signage: Visual literacy skill to improve wayfinding

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Abstract

This paper utilizes research-based evidence to highlight ways academic librarians can improve the discoverability of resources and spaces by addressing three key areas: visual literacy, wayfinding, and signage. It answers critical questions pertaining to how academic librarians can improve students' navigation of library spaces and collections. A three-step action plan is suggested to improve access and maneuverability with goals of providing better experiences for a broader population of individuals to be served.

Keywords: academic libraries, signage, visual literacy, wayfinding, evidence-based

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"Every design problem I've ever solved started with my ability to visualize and see the world in pictures," (p.4) is a powerful statement with significance for librarianship by the renowned animal sciences professor and autism advocate, Dr. Temple Grandin (2006). Grandin may seem unique to some in her capacity to elucidate her temporal impressions. She effectively conveys that as a culture, we are moving away from a world of words. Instead, according to Grandin, people today are descending rapidly into a realm of visual perception. As Grandin's position suggests, navigating complex landscapes can mean many arduous tasks. Navigating requires the ability to both interpret and analyze visual cues in an instant. If one fails to interpret visual information quickly and accurately, the consequences can be dire. Further, recognizing the role visual literacy plays in today's society, and how presence or absence of visual literacy skills impacts daily lives, is of major importance to many professionals including the profession of librarianship.

Wayfinding, as defined by Johnston and Mandel (2014), refers to "the ability of users of the built environment (i.e., a facility) to navigate through that environment to find specific destinations" (p.38). In the sphere of academic librarianship, limited mention has been made regarding navigability within library spaces by means of general wayfinding. Instead, access to spaces and collections within academic repositories are frequently determined by a patron's own ability to reasonably decipher a hodgepodge of symbols, objects, and texts. Lack of decipherability often times results in specialized academic library spaces being utilized as little more than quiet study areas for students, as opposed to a cache of resources waiting use. This leads to an important question: How

can academic librarians implement a universal language to assist students in navigating both library spaces and collections successfully? To answer this question using current authoritative sources, I first necessarily address a few key assumptions that appear to be plaguing current academic library spaces. The first assumption is that English is the language of choice and is easily understood, spoken, and communicated by students in academic libraries. The second assumption is that college students possess skills to read and interpret maps, symbols, and objects. The third, and final, assumption is that college students have a working knowledge of the Library of Congress classification system. When taken together, these assumptions result in difficult situations for college students who cannot maneuver through library buildings and stacks to find needed materials.

Taking a research-based evidence approach to determine best practices, improvement and/or resolution to the academic library problem, I have identified that there are three key areas for review of published sources: visual literacy; wayfinding skills; and signage. With a fundamental understanding of visual literacy, it is possible to translate the current method of library signage into a more practical and perhaps possible universal language. Addressing wayfinding, discovering examples of updated signage and a continued awareness centered on visual literacy is likely to lead to changes in an environment and to improving student navigation of academic library spaces. Following is a collection of research-based evidence conducted and published in the current decade from quantitative and qualitative studies that are used to inform my suggested action plan.

Evidence-based Research about Visual Literacy, Signage and Wayfinding

Ravas and Stark (2012) studied first year college students at the University of Montana to address the value of images as a means of communication. According to Ravas and Stark about their method, "one of the key functions of this assignment was to help students recognize the important differences between reading the printed word and 'reading' visual material" (p. 42). Findings in this qualitative case study suggest college student participants in this study were able to read and analyze visual images effectively for use as a means of communication.

In their seminal research on wayfinding within library spaces, Li and Klippel (2012) provide valuable insight into understanding how individuals maneuver through library spaces. According to Li and Klippel (2012), "wayfinding is the way humans find their way through an environment" (p. 23). Li and Klippel's study underscores the value of library signage and the importance of design as a means of addressing problems and issues within library spaces that inhibit an individual's wayfinding abilities. Li and Klippel used two groups of four college students each at Pennsylvania State University: one group of four had familiarity with the library space, while the other had no previous experience in the particular library. Each participant was individually tasked with locating two books from within the library and was followed at a reasonable distance by an observer with a video camera. After locating the materials, the participant was then asked to determine the location of the starting point. Results of the study suggest while familiarity with specific library spaces certainly plays a role in wayfinding, so, too, does a building's physical structure. Furthermore, utilizing space syntax methods in their study, Li and Klippel (2012) were able to confirm the "relationship between aspects of environments (i.e. visibility, connectivity, and layout complexity) and human wayfinding

behavior" (p. 36). They determined that it is worthwhile to use quantitative methods to evaluate physical environments and individual behaviors when investigating wayfinding problems in libraries.

Applying an ethnographic methodology to investigation of wayfinding, Hahn and Zitron (2011) of the University of Illinois, Urbana-Champaign, set out to locate navigational signposts in a library building's structure that aid in wayfinding, as well as, to highlight fail points. Recruiting students for their study, Hahn and Zitron focused on undergraduate, first year experience students in the hopes of conceptualizing their navigational rationale. The study spanned an academic year (2009-2010) and required participating students to locate three call numbers for materials throughout the library. Each student was followed and asked to verbally express how and what they were using to find the materials. Their responses were recorded and followed up with the student debriefing with the researcher. Results of this study accentuate the necessity for a better understanding of classification systems. Hahn and Zitron (2011) assert that "library classification exists both as navigation fail point and also is the major way in which students find navigation success," (p. 32) as well as calling for more maps, and better and more uniform signage.

According to Li and Klippel (2012), "[S]igns and maps are the most effective and simplest way to improve wayfinding" (p. 36). Johnston and Mandel (2014) take this idea one step further by focusing their study on results of expert-reviewed signage systems in selected school libraries. The purpose of their research focused on the role signs play in a student's wayfinding and points out that students "must be able to successfully navigate to find the information to solve school-and-life-related problems" (p. 39).

As navigational aids and markers, signs are intrinsic to the needs of wayfinding. According to Johnston and Mandel (2014), "signs serve three central roles pertaining to wayfinding: they can serve as directional markers to orient users to a space; they can be regulatory in nature, indicating internal or external regulations or policies; and they can be informational, which comprise all other signs in library spaces" (p. 42). A study was conducted in a suburban area of the southern United States, to examine all library signage within an elementary, middle and high schools. Researchers identified sign type, sign location, and sign errors in relation to a sign's ability to effectively communicate spatial information. Findings indicated that the majority of signs were informational in nature and only a small percentage were regulatory and directional; color usage was identified as an important consideration; and identified lack of appropriate directional signage and unclear signs and placement.

Stempler's (2013) case study of a signage redesign project in 2008 at CUNY-Staten Island also indicates the need to address issues relating to signage in academic libraries. Stempler's case study highlights signage as a major factor in a patron's wayfinding ability and emphasizes lack of information related to how individuals locate materials within the stacks. Carried out over a two-year period, Stempler's signage redesign project most notably implemented a quadrant color-coding system, followed by a signage strategy design. The aim of the strategy design was to aid patrons in their navigability to a specific book, or specific topic. Signs were designed in the following areas: aisle number, call number range, directional, subject area and stack list. Results of this project coupled with a resulting stack-shifting project indicated a 71%increase in

circulation of materials with patrons returning to the reference desk less frequently with orientation questions when given the color-coded quadrant information.

Leading Change

Taking into account the evidenced-based research discussed in the section above that addresses visual literacy, wayfinding, and signage, an image emerges with regard to how academic libraries can possibly utilize a universal language to assist students in navigating library spaces and collections successfully. I propose three actions to stimulate change: signage redesign; installation of a color-coding system; and revisioning classification systems for subjects by way of aisle end caps and stack maps.

Action Step One, Signage Redesign

Redesigning a library's already existing signage seems both monstrous in task and overreaching in function. However, when considering research-based evidence, it is easy to recognize major roles signage plays in a user's ability to navigate toward a specific destination. Signs must present directional, regulatory and informational details without being too wordy. More to the point, as Johnston and Mandel (2014) points out, "the remembrances of signs decrease when the number of contained words increases" (p. 43). One way to redesign existing signage and decrease word count is to substitute selected terms or phrases with universally understood images or symbols. In this way, non-native speakers, or patrons with limited language skills, will be more apt to successfully navigate spaces and/or collections without having to request assistance. In essence, patrons will become able to practice visual literacy skills as they pertain to reading the visual material, while also successfully wayfinding. Likewise, redesigning signs with clarity and conciseness in mind, will function in a way that aids in the discoverability of

both the library's spaces and resources. In addition, font size, color, and uniformity all play a major role in the unification of theme and design.

Action Step Two, Installation of a Color-Coding System

According to Li and Klippel (2012), "an individual's ability to navigate successfully is hindered by the lack of a sense of direction, or inexperience within certain spaces" (p. 23). Li and Klippel further demonstrated there is a relationship between a physical environment and a person's wayfinding behavior in that environment and that there are three factors that affect wayfinding capabilities: "differentiation of environment, visual access, and spatial layout" (p. 23). By implementing a color-coding system for signage throughout a library's spaces, patrons can visually access spaces and differentiate their environment, and thereby distinguish their location. Further, color-coding allows the user to not only orient herself within the space, but also acknowledges a further collocation of a library's spaces and resources. In addition, a color-coding scheme, coupled with signage redesign, creates a unified theme that expresses succinctly the library's visual message.

Action Step Three, Revisioning Library's Use of Classification System for Directions

Finally, in the revisioning of a library's classification system as a way to find directions, the practice of relying solely on call numbers and maps to direct users to materials could be changed and improved. Calling upon the concepts of visual literacy could play a major role in the revisioning process. To this end, stack end aisle indicators, along with maps, could utilize recognizable images, or symbols, to delineate between subjects and topics. Stempler (2013) notes, "adding more specific subject heading

signs...may also help improve navigating the stacks for browsing purposes." (p. 511). Unless a patron is familiar with the Library of Congress classification system, call numbers are merely a set of random letters and numbers with no real intrinsic meaning. However, by introducing universal images to indicate subject or topic areas, patrons could put to use visual literacy and wayfinding skills in a way that is both successful to the user and the library.

Suggestions for Practice

While implementation of this action plan is feasible, to be successful it will be necessary to address some of the possible limitations, or issues, arising from such a drastic overhaul. One such consideration is the application and assessment of a wayfinding exercise designed for users of the library before and after the redesign. Stempler (2013) suggests it would have been beneficial for the signage redesign project to assess the efficacy of the new designs with, for example, a book finding task. Moreover, in order to quantitatively and qualitatively measure the success of the signage redesign, color-coding scheme, and revisioning of end caps and maps, it would be imperative to set in place a wayfinding or material finding activity.

Another area in need of attention and study would be the employment of universal images to either eliminate the use of text or to supplement it. Libraries will first need to determine what images to use and how best to do so. As Li and Klippel (2012) succinctly state, "signs help patrons confirm the location of themselves or books in all environments" (p. 33). Libraries will change - - and patron's experience improved - - by creating a visual language to best represent the information being expressed. For example, a humanities library could subdivide their visual arts subjects with images on

the end cap of each aisle, corresponding to an image located on a stacks map. Books on motion pictures could utilize the image of a video camera. Those materials about television could use a television set, and so on.

These endeavors, while challenging to undertake, can make the positive difference in a patron's ability to successfully navigate library spaces and collections. There is research-based evidence presented in this paper, and more, that suggests redesigning existing signage, along with adding a color-coding system and updating classification codes to include images, can improve both access and maneuverability. Instituting a universal visual language could also speak to a broader population of individuals to be served. Again, as Dr. Grandin (2006) notes, "visual thinking is a tremendous advantage, as it can open up a fresh world to an entirely new audience" (p. 3).

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