Literature Review

21st Century Reference Collections

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Libraries often end up weeding and updating reference collections reactively when faced with the need to do so. Some needs that may lead to these overhauls include the need to find more study space, merge collections, or shrink expenditures. Regardless of the reason why updating is required it is important for libraries to update their reference collection to the 21st century. I will begin by providing a brief overview of reference collections and the literature. Next I will discuss weeding and related processes through the consideration of case studies and scholarly articles. I will discuss merging reference collections and electronic reference materials. Lastly, I will provide some summary suggestions for updating a reference collection to the 21st century and reflect on the information gathered.

The reference collection is often the primary tool for academic librarians who need to assist users with rapid information needs. Librarians select, manage, and evaluate materials for the reference collection to best meet the unique needs of the libraries' students, staff, and faculty (King, 2012). The collection, management, and maintenance of the reference collection is often categorized into five areas. These areas are reference collection development policy, selection and acquisition of reference materials, measurement and assessment of collection use, weeding and deselection, and marketing and promotion of the collection (King, 2012). An important aspect of the reference collection is its role. Some think the reference collection should be built on the premise of providing authoritative answers (Francis, 2012). Others think the reference collection should enable library patrons to make serendipitous discoveries (Ford, Hanson, & Whiklo, 2009). This is interesting as an increasing number of libraries purchase electronic reference materials instead of print. Since patrons often can't browse these materials on various online platforms they miss out on chance serendipitous discoveries (Ford et al., 2009). Another role of the reference collection held by many is that of use. Many think the reference collection should primarily consist of materials used often by many (Colson, 2007; Detmering & Sproles, 2012; Engeldinger, 1990; Matthews, 2007; Nolan, 1999; Singer, 2008). To obtain articles for this literature review I primarily searched the 'Library and Information Science Source' database and the NEOS catalogue. While studying the literature I discovered a couple recurring points. Many articles found or cited studies that found a good portion of print reference collections are rarely used (Czechowski & Husted, 2012; Detmering & Sproles, 2012; Matthews, 2007). This suggests weeding as a possible solution to making print collections more useful and relevant. There was little written on merging reference collections. Information on highlighting electronic materials as

"Reference Materials" was primarily mixed in with other information about electronic reference materials. The literature contained many case studies and a similar quantity of 'how to' articles. In addition, I found many libraries implement weeding in response to a need (e.g. the need for space) as opposed to proactively. This led to a variety of methods for weeding, including the very detailed to the quick and intuitive.

An article by Singer discusses a recent decision to move the materials from the reference collection in the Ogg Science Library to the William T. Jerome Library at Bowling Green State University (2008). This decision made reviewing and weeding both collections a necessity. It was five years before the last review of the reference collection was completed and it is stated it is not uncommon for libraries to delay weeding until confronted with a space shortage (Singer, 2008). This article described the collection review process with emphasis on how changes in technology and demands of library users have altered the review. The objectives of a collection review include identifying obsolete and unused books to be removed from the collection, identifying missing titles and volumes, identifying volumes for which newer editions had not been purchased, and identifying titles for which newer materials could be purchased (Singer, 2008). When collections grow unplanned and available space decreases, then works with needed information become lost in the clutter of outdated and inappropriate materials. A side benefit of a good collection review can be an improvement of staff knowledge of a collection, leading to improved customer service. Some unshakeable desires for the review include not losing any seating and not replacing shelving with compact shelving. Those implementing the review took particular note of changes in demand for reference services from improved technology and online publishing (Singer, 2008). These changes led to a reduction in ready reference questions, but an increase in requests for help with computer and printer problems. These changes suggest there could be less of a need for keeping a large ready reference collection. Some of the types of books no longer needed by reference desk staff were directories, reference sources chosen for specific classes that were no longer offered, and sources that were replaced by online databases (Singer, 2008). Due to a high demand for online resources, staff wished to shift some of the budget allocation from print to electronic format (Singer, 2008). Singer highlights two key opposing philosophies of reference collection development. One is based on format and holds that any book formatted for reference should be in reference (e.g. encyclopedias) (Singer, 2008). The second is based on usage and holds that the reference collection should only include resources

that contain the information needed to answer the unique reference questions at the library the collection is located (Singer, 2008). Singer emphasizes the importance of having a discussion with staff while reviewing the standing orders and subscriptions before a complete review, because it provides staff an opportunity to define and agree on what should and should not be in the collection as well as determine the philosophy behind any weeding strategies decided upon (2008). Singer suggests a common practice during crisis weeding involves focusing on large sets and thicker volumes to gain the greatest space for the least effort (2008). Another idea is to weed space where more books are being purchased. Later in the article Singer discusses a list of criteria for weeding put forward by Coleman and Dickinson in 1977. This list includes a consideration of the importance of the sources, comprehensiveness of the information, importance of the subject area, language, use, availability of a newer edition, serial nature of the publication, duplication of information in other reference materials, number of copies available, and condition of the material (Singer, 2008). This list could be roughly narrowed down to age, currency, and use. Since determining the use or lack of use of reference materials can be a challenge some ideas are proposed (e.g. placing something in or on a book that would be disturbed when used) (Singer, 2008). Singer provides some recommendations to maximize one's chances for success (e.g. write a reference collection maintenance policy) and discusses both human and equipment resources in relation to performing a collection review (e.g. use computers to easily access use statistics) (2008).

An article by Francis discusses a case study of a reference collection weeding project involving 2,720 titles at the Dakota State University (2012). It includes the development of a reference collection policy, a review of standing orders, solidifying the goals and outcomes of the review, and a discussion of the project benefits (Francis, 2012). Similar to other cases, weeding had not taken place for a couple years. Some of those tasked with the project thought the reference collection should be built on the premise of providing authoritative answers (Francis, 2012). This article confirmed the effects of online searches and electronic resources on reference collections. Similarly confirmed was the reduction in the use of directories. Francis agreed with other articles that a complete review should be completed before weeding the collection (2012). This would enable one to obtain an overall overview of the collection, which can aid one in best determining one's needs. In the literature review, Francis discusses the lack of literature about reference collections and weeding reference collections in particular (2012). Some overall goals

for the particular weeding project were bringing the reference collection up to date, freeing up shelf space, and discovering gaps in the collection (Francis, 2012). Francis discusses a review of the standing orders and reference collection in relation to weeding. The benefits of a reference collection policy are noted and include helping set up guidelines for the collection, coordinating the collection with service offered, defining duties, saving time during weeding, and providing staff with a statement to aid in making and explaining decisions (Francis, 2012). Francis discusses a method of using multi-coloured strips of paper in books for visually classifying weeding potentiality (2012).

King assesses the reference collection management practices and strategies used in humanities and social science reference departments of academic members of the Association of Research Libraries (ARL). To perform this assessment King collected information via an online survey of librarians about collection development policies, acquisition processes, collection use, weeding, and marketing (2012). The survey included questions about measuring the use of reference collections (e.g. statistics from vendors for electronic resources) (King, 2012). The results of this survey suggest many academic ARL libraries weed their collections regularly, compare the use of print and electronic resources, and notice a clear trend toward more electronic reference materials (King, 2012). The reference collection is noted as the primary tool for academic librarians who need to assist users with rapid information needs. The collection, management, and maintenance of the reference collection is often categorized into five areas. These areas are reference collection development policy, selection and acquisition of reference materials, measurement and assessment of collection use, weeding and deselection, and marketing and promotion of the collection (King, 2012). King agreed with previous articles about the importance of the collection development policy, but also highlighted the fact many libraries do not have one (2012).

An article by Colson discusses a five-year reshelving study completed by a small academic library to guide in collection management. To complete the study stickers were applied to books as they were reshelved with a different colour for each year. It was discovered that some items were heavily used, but a bunch were not used at all over the five-year lifetime of the study (Colson, 2007). Two important discoveries stated in the literature review are that many libraries' possess a substantial amount of material that sees no use and current use is a good predictor of future use (Colson, 2007). A survey by Biggs and Biggs demonstrated that collections tend to be

too large for optimal use by librarians in delivering prompt and quality information (Colson, 2007). This suggests weeding could improve services in most libraries. In this study electronic resources were found to have no effect on the use of the print reference collection (Colson, 2007). It should be noted that this statistic is based on the usage at a library that only subscribed to three electronic resources (World Almanac, FirstSearch, and Oxford Reference Online). Like Singer, Colson agrees it is important to determine the philosophy behind the reference collection (2007). For example, is the reference collection meant to be an authoritative and current source of material? Perhaps the reference collection is meant to simply provide equitable access to heavily used materials. Maybe a combination of the two is the reason.

In an article titled "Ready Reference Collections: Thoughts on Trends", the title says it all as Fernandes discusses thoughts on changes in ready reference collections (2008). The ready reference collection relates to the reference collection by leading to suggestions regarding the content of both. It is suggested the content of the ready reference collection should be kept to a minimum, so librarians feel the need to take students to the shelves to browse the reference collection (Fernandes, 2008). Taking students to the reference collection better enables librarians to think and assist patrons, because the front desk can feel busy and stressful at times (Fernandes, 2008). This stress and busyness can lead librarians to propose quick answers instead of helping patrons find the best answers. In addition, escorting or directing students to the broader reference collection ensures a larger variety of material is likely to be consulted as opposed to the small choice of material in ready reference (Fernandes, 2008). Fernandes suggests it is good to have a balance between print and electronic collections for a variety of reasons (2008). One reason is that online searching may not provide users with the quality of serendipity found in successful browsing. Overall this article supports regularly weeding reference collections.

In *Fundamentals of Managing Reference Collection*, Singer discusses reference collection development policies, selecting reference materials, maintaining collections, and weeding (2012). Of specific interest is a discussion of the maintenance of electronic resources and rules for weeding collections. A discussion of which method of weeding should be used is also discussed. Determining how to weed could be influenced by time frame, number of staff available, and more.

Engeldinger's article reviews the literature on weeding collections and discusses a case study of the Eau Claire Library at the University of Wisconsin (1990). This article highlights the

importance of collecting empirical data to inform weeding. Engeldinger supports conducting a use study of reference materials before weeding and suggests affixing dot stickers to the back of books when they are reshelved as a method of determining use (1990).

In *Reference and Information Services in the 21st Century: An Introduction*, Cassell & Hiremath mirror many of the previously discussed points. Of particular use are separate chapters on different types of reference sources (e.g. encyclopedias, reader reference, dictionaries, indexes and full-text databases, special guidelines and sources, and biographical information sources) with a discussion of major resources used for each type. Cassell & Hiremath discuss how collaborative Internet tools (e.g. GoodReads and MediaWiki) could affect reference services (Cassell & Hiremath, 2009). Use of these Internet tools could replace reference materials (e.g. Wikipedia could replace or minimize the need for print encyclopedias) (Cassell & Hiremath, 2009).

Matthews reports on studies that agree with previous articles in that a good portion of print reference collections are rarely used, suggesting weeding as a possible solution to making the print collection more useful and relevant (2007). Matthews lists a couple of options for measuring the use of a print reference collection. One of these methods involves affixing something to reference materials such that if a material is moved the movement could be noted (e.g. beads on the top of books) (Matthews, 2007). Another method involves attaching a tally slip to books and asking users to make a mark if they use the book (Matthews, 2007). Other methods include conducting interviews with users, asking patrons to fill out questionnaires, and reshelving techniques (Matthews, 2007).

Tyckoson discusses the relevance of print reference sources in light of many electronic resources (2004). Of specific interest is when he looks at twenty top reference titles he previously classified as essential and shortly writes about whether he still utilizes the title or if Internet sources have replaced them (e.g. previous uses of the *American Library Directory* are now replaced by going to the individual library web page) (Tyckoson, 2004). This is a good article for getting one to consider how electronic resources have affected the use of print reference sources and free electronic resources have affected the use of paid electronic resources.

Czechowski and Husted's article considered the possibility of developing an electronic reference collection to replace the print reference collection in the Health Sciences Library

System at the University of Pittsburgh (2012). The process for consideration involved three phases:

- Assessment of the print reference collection as a benchmark for the electronic collection.
- Evaluation of essential purchase titles lists as a benchmark for the electronic collection.
- Determination of the availability of electronic versions of print reference and essential purchase titles. (Czechowski & Husted, 2012)

Reasons for desiring to go purely electronic are given along with a description of the process of evaluating the print reference collection and collection development lists. In the end it was decided the low availability of electronic versions of titles rendered the creation of an electronic reference collection impractical (Czechowski & Husted, 2012). Reasons for going digital include pressure from publishers, increasing requests from library users, and the desire to make materials more widely available to distant and dispersed users (Czechowski & Husted, 2012). The authors note while duplicating materials in print and digital may be seen as a solution to bypassing the decision to provide a material solely in one medium, duplicating materials in print and digital is increasingly seen as a luxury (i.e. untenable in light of decreasing or stagnating budgets) (Czechowski & Husted, 2012). Czechowski & Husted cite multiple studies suggesting e-books are used to a greater extent than print titles (2012). This article provides a method of considering the tenability of transitioning to a complete or part electronic reference collection. Although the study considered transitioning the entire print reference collection to electronic, it seems a better decision might be transitioning and/or duplicating only those print reference titles that are most used and/or updated.

Bianchi and Delwiche's article describes the process employed to shrink and revitalize a medical library's print reference collection (2006). Motivations for improving the collection were space and the desire to modernize (Bianchi & Delwiche, 2006). Those tasked with the project first targeted outdated titles, duplicate titles, and print materials available electronically for weeding (Bianchi & Delwiche, 2006). The reference collection was separated into five sections and the task of weeding each particular section was assigned to a different reference librarian (Bianchi & Delwiche, 2006). Librarians went through titles individually and later displayed potential weeds to other librarians for comments and review (Bianchi & Delwiche, 2006). It should be noted this method relies on a staff of experienced reference librarians, so it would likely not work as effectively if the staff were new or did not know the collection well. Each title

must be considered as a piece of the overall reference collection. Where new materials were found to be available freely on the Internet it was decided to affix a sticker to an outdated edition notifying users of the availability of the material online (Bianchi & Delwiche, 2006). A URL was also written inside the front cover to direct users. This helped save money and later reduced the size of the reference collection when librarians phased out materials once library users became sufficiently trained to consult the Internet resource (Bianchi & Delwiche, 2006). Librarians wrote an improved general collection development policy that focused on scope, currency, and retention policies for materials (Bianchi & Delwiche, 2006). A specific section of the reference collection was set aside to accommodate a rotating display of the most recent purchases. Weeding and improving the reference collection led to reduced size, increased usage, improved visibility, and improved confidence in new reference librarians who found it easier to become familiar with the improved reference collection (Bianchi & Delwiche, 2006).

An article by Lambert, Robinson, and Triplett claims data shows students largely go to the Internet as a first source for self-help and basic research (2011). This led them to agree that improvements to the reference collection should be coupled with a communication plan to make users who think Wikipedia and Google web searches are enough aware of the value of library reference sources (Lambert et al., 2011). Lambert et al. think librarians could communicate substance is more important than convenience and form (2011). In contrast, convenience and form could also be improved for those materials with substance. Lambert et al. note the millennial generation prefers online resources, but suggests libraries survey their population to determine preference for materials (2011). A process for weeding a reference collection is included with an emphasis on use to inform decisions. Lambert et al. decided to deselect material based on the following criteria: Cost, frequency of publication (e.g. purchasing some new editions every two years instead of every year), obsolete and unused titles, duplicated titles, relevance (e.g. materials no longer used due to changes in the curriculum), online availability, availability of comparable information, and withdrew bibliographies, subject dictionaries, and directories (2011). Some suggestions for a successful weeding project were discussed and include planning ahead, working in small blocks of time, eliminating material not related to the curriculum, ensuring the collection is current, promoting free high quality reference materials, and preparing for more e-books (Lambert et al., 2011).

Detmering and Sproles' article describes the ongoing process of weeding, streamlining, and transforming a print reference collection at the University of Louisville's William F. Ekstrom library (2012). Motivations for weeding included space concerns (i.e. to make more room for an increase in learning commons areas) and shrinking budgets (Detmering & Sproles, 2012). Before beginning to weed the collection, time was spent discussing the purpose of the reference collection. It is suggested weeding decisions should be based on the genuine use value of an item instead of its presumed status from sentimentality or historical reasons (Detmering & Sproles, 2012). It is suggested an old reference development policy could severely hinder the weeding process, so it should be updated to better reflect the current climate and user preferences (e.g. preference for electronic resources) (Detmering & Sproles, 2012). Detmering & Sproles suggest a possible measure of the currency of the reference collection could be the average age of titles (2012). The authors mention merging separate reference collections, but make no mention of special considerations when doing so. This suggests the weeding process is similar when merging collections to the process when focusing on one collection.

An article by Lesley Farmer examines the life cycle of digital reference sources in light of the reality of an increasing number of libraries complementing print-based reference collections with digital sources (2009). This article provides an overview of electronic resources in libraries, electronic resources management, assessing resources, selection processes, acquisitions issues, presentation, maintenance, archiving, and de-selection. It provides a great resource for libraries in the process of considering the acquisition of electronic sources or weeding collections.

East reviews and evaluates the development and use of the subject encyclopedia (2010). Of particular note is the discussion of online subject encyclopedias and the extent to which academic libraries are facilitating and promoting use of these resources. A 2008 survey of undergraduate students found Wikipedia was a unique research source for students that filled many of the roles traditionally held by printed encyclopedias (e.g. enabled students to obtain an up-to-date, concise overview of research topics) (East, 2010). It is difficult for paid electronic reference sources (e.g. Routledge Encyclopedia of Philosophy) to compete with free sources (e.g. Stanford Encyclopedia of Philosophy) (East, 2010). East was found to be in agreement with Lambert et al. when noting that convenience trumps quality and high-quality resources will only be utilized if clients can identify and access them easily (2010). This suggests libraries need to focus on convenience of access over quality of resources in order to increase use of quality

resources. Some proposed solutions to inform patrons of the availability of online resources and reduce the number of hoops one must jump through to access them are attaching an "also available online" sticker to print versions of works available online, presenting a clear e-reference list, having a separate catalog record for online encyclopedias, including links to electronic resources in subject guides, and overall reducing the number of links and entry forms required to access electronic resources (East, 2010). Another solution involves using a federated search engine for online and print media (East, 2010). In general, online resources must be easily accessible and cross-searchable.

One of the key benefits of the reference collection is enabling library patrons to make serendipitous discoveries within the key resources in a compact reference collection (Ford et al., 2009). Increasingly electronic reference materials are purchased and since patrons often can't browse these materials on various online platforms they miss out on chance serendipitous discoveries (Ford et al., 2009). An article by Ford et al. outlines this problem with electronic reference, looks at what ARL libraries offer as online reference collections, and puts forward possible solutions to the issue of reduced serendipity with electronic reference (2009). Common issues with electronic reference are discussed and include competing access interfaces, bundled collections, authentication, usage restrictions, and other limitations (Ford et al., 2009). The authors note traditional reference materials ideal for conversion to electronic resources are dictionaries, directories, and encyclopedias (Ford et al., 2009). Ford et al. cites that electronic materials are typically discovered through the library catalogue in the same way as traditional print materials, but electronic materials are also discovered via databases and lists (2009). This suggests it is important to focus on the catalogue, databases, and lists when presenting available electronic reference materials to patrons. Interestingly sixty-six percent of websites studied had electronic reference collections available on the homepage itself or within one click of the homepage (Ford et al., 2009). Only 9% of websites required 3 or more clicks to access the e-reference collection (Ford et al., 2009). It was found names for electronic reference collections varied widely, but the majority used the term 'reference' (Ford et al., 2009). Two aspects of improving presentation of the e-reference collection at the University of Manitoba were obtaining pictures of the book covers from publishers to maintain the similarity to browsing print materials and enabling users to add tags (Ford et al., 2009). Overall Ford et al. provides an incredibly useful article about how libraries make their electronic reference collections available.

Managing the Reference Collection by Christopher Nolan is a great resource with tips and extensive information about reference collection development policies, selection principles for the reference collection (both print and electronic resources), and weeding (1999). The selection of electronic resources gets its own chapter where Nolan discusses important differences between print and electronic sources one should consider when developing an electronic reference collection. Some of these important differences are the interface used to access the electronic resources, the type of platform required to access the source, any additional costs, and the nature of the library ownership of electronic materials (e.g. leased) (1999). Readers can find a discussion of electronic reference sources versus print sources that consider such aspects of comparison as user access (Nolan, 1999). For example, print sources must be used where the material is physically located, but electronic sources could be networked and made available to multiple people simultaneously. Nolan discusses the integration of electronic resources into the reference collection. He notes it is preferable to locate reference workstations with access to electronic resources in the immediate vicinity of the rest of the reference collection (Nolan, 1999). If workstations are used one should consider labeling them with what users can access on them. This provides a quick and easy way to alert users to the fact some reference resources can be accessed electronically (Nolan, 1999).

In her article, Thomsen discusses advantages and disadvantages of print and electronic sources (1999). During this discussion one discovers there is much agreement with Nolan, especially the discussion of user access factors (e.g. location, ability of multiple people to access at once, and technological barriers for library users). Thomsen discusses the importance of evaluating websites before listing them for users. Many patrons might be able to access and locate web resources, but few may be able to evaluate and determine whether they are legitimate sources (Thomsen, 1999).

Many individuals found weeding the reference collection led to improved ability to provide services (Farmer, 2009; Ford et al., 2009; Francis, 2012; Singer, 2008). Singer found weeding prevented works with beneficial information from becoming lost in the clutter of outdated and inappropriate materials (2008). Related to weeding, Francis noted the benefits of a reference collection policy include helping set up guidelines for the collection, coordinating the collection with service offered, defining duties, saving time during weeding, and providing staff with a statement to aid in making and explaining decisions (2012). Farmer found some benefits

of digital reference collections are remote access and the possibility for multiple simultaneous use (2009). Although there are many advantages of electronic sources there are downsides as well. Downsides include connectivity, infrastructure, privacy, security, access, and dissemination rights issues (Farmer, 2009).

Regarding weeding there were many recommendations to update a reference collection to the 21st century. It is suggested there could be less of a need for keeping a large ready reference collection (Singer, 2008). Many types of books are likely to become or have become virtually useless as a result of the increase in use of electronic resources (e.g. directories, bibliographies, subject dictionaries, and other sources replaced by online databases) (Francis, 2012; Lambert et al., 2011; Singer, 2008). If there is insufficient time for a complete and comprehensive weeding project, Singer suggests focusing on large sets and thicker volumes to gain the greatest space for the least effort (2008). During weeding it is recommended one consider the importance of sources, language, use, cost, frequency of publication, online availability, comprehensiveness of sources, availability of newer editions of a source, duplication of information in other reference sources, and condition as users are less likely to pick up ugly looking materials (Bianchi & Delwiche, 2006; Lambert et al., 2011; Singer, 2008). This list could be roughly narrowed down to age, currency, and use. As part of the weeding process it is recommended librarians conduct a collection review where they identify obsolete and unused books to be removed from the collection, missing titles and volumes, volumes for which newer editions have not been purchased, and titles for which newer materials could be purchased (Singer, 2008). It is also suggested librarians plan ahead, work in small blocks of time, eliminate material not related to the curriculum, ensure the collection is current, promote free high quality reference materials, and prepare for an increase in e-books in the future (Lambert et al., 2011). A clear majority thinks the primary philosophy behind decisions about reference collection materials should be use (Colson, 2007; Detmering & Sproles, 2012; Engeldinger, 1990; Matthews, 2007; Nolan, 1999; Singer, 2008). Colson found the most common method for determining use of reference collection materials involved recording the number of times a work is reshelved (2007). Two disadvantages of this method are it overlooks those items reshelved by patrons and undercounts items used by multiple patrons, but shelved only once. Overall there exist many methods for determining the use of reference items, but it is up to individual libraries to determine which method works best for them and the resources they have available.

Regarding merging reference collections there was little information. If one considers factors involved in weeding collections it seems many could apply to merging collections. For example, use could be considered in that books used rarely could be removed from both collections or moved to circulation. Outdated and rough-looking titles could also be removed. Similarly, one should consider a determination of one's goals before merging collections. For example, does one wish to maximize overall use of all reference materials, increase currency, or increase comprehensiveness?

Throughout the literature there are many suggestions for how to highlight electronic materials as "Reference Materials" or otherwise advertise the availability of electronic reference materials. Colson suggested librarians could work with course instructors to make use of electronic reference sources required (2007). Libraries could increase instructional sessions and outreach to faculty (Colson, 2007). Bianchi & Delwiche suggest where new materials are found to be available freely on the Internet; librarians could affix a sticker to an outdated print edition notifying users of the availability of the material online (2006). In addition to the sticker, librarians could write the URL for the online source inside the front cover to help direct users (Bianchi & Delwiche, 2006). This could save money, reduce the need to duplicate materials, and later reduce the size of the reference collection when users and librarians become familiar with consulting the Internet resource. Czechowski & Husted's study warns it is important to consider the availability of electronic versions of titles before making a large move toward forming an electronic reference collection (2012).

By reading the literature it was discovered there is a lot of information on weeding reference collections and many changes to weeding suggestions as a result of the increased use of electronic reference materials. It was discovered it is important to emphasize and advertise electronic reference materials to ensure users know about them. Librarians should strongly consider ease of access when considering print and electronic reference materials, as users typically prefer convenience of access over quality of sources. Overall use was found to be the dominant philosophy and determining use is key to informing reference collection weeding decisions. In this paper, I provided a brief overview of reference collections and the literature, discussed weeding and related processes through the consideration of case studies and scholarly articles, discussed merging reference collections, and discussed electronic reference materials.

Lastly, I provided some summary suggestions for updating a reference collection to the 21st century and reflected on the information gathered.

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