Use of Online Citation Tools by Students and Research Scholars of Department of Library and Information Science, University of Delhi

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ABSTRACT

This paper finds out the citation management and the needs of students of Department of Library and Information Science, University of Delhi, and how online citation tools fit into their academic and research process. The results indicate that all the respondents are aware of online citation tools and using them occasionally. EasyBib was the popular online citation tool among respondents. The survey results show that most of the respondents learned the online citation tools through department’s website. The main purpose of using online citation tools was for their academic/research work. Most of the respondents were accessing online citation tools from the Delhi University Computer Centre. They had not received any formal training for creating online citations. Simplified and easy bibliography and automatic creation of references list are two major benefits of online citation tools. The most obvious impediment is that they have never used the online tools before. Meagre respondents wanted training in using online citation tools for creating efficient references. The findings of the study will not only help the Library and Information Science students about knowing what a citation is and understanding the concepts of citation styles and formatting, but also help citation-related competencies and skills in recognising citations and understanding their functions in research.

Keywords: Citation tools, bibliographic management tools, students, research scholars, University, Delhi

1. INTRODUCTION

“One of the most important aspects of academic writing is making use of the ideas of other people”1, because “quality academic writing is built upon the work of others”2. Referencing is a standardised method of acknowledging all the sources of information, data, and ideas one uses in writing an article, book, thesis, etc. Spack3 has pointed out that “the most important skill a student can engage in is the complex activity to write from other texts, which is a major part of their academic experience. In fact, this is an essential skill for every student.” For this reason, “any academic text will contain the voices of other writers and reference gives the readers details about the source so that they have a good understanding of what kind of source it is and could find the source themselves, if necessary. A citation is a credit or reference to another document or source which documents both influence and authority”2.

“Citation allows us to acknowledge how the scholarship of others has contributed to our own work, to distinguish for our readers which ideas are our own and which are borrowed, and to give our readers a path by which they can trace the intellectual development of the ideas we present”4. In other words, “the object of this is to supply the information needed to allow a user to find a source”4. There are many formats for the use of citations for different fields to follow, for example, American Psychological Association (APA)—used in the fields of Social and Behavioural Sciences, Psychology, Education, Anthropology; Harvard—for Social Sciences, Natural Sciences, Education, Business; Chicago—for Social, Biological and Physical Sciences, Humanities; Modern Languages Association of America (MLA)—for Modern Languages, Literature; American Chemical Society (ACS)—for Chemistry; American Institute of Physics (AIP)—for Physics; IEEE—for Engineering and Technology; Vancouver—for Medicine, Humanities, etc.

2. REVIEW OF LITERATURE

Citation symbolises association of ideas5. A citation management tool is any resource, program or service that supports citation management, or, the understanding, gathering, organisation, and use of citations in research and information literacy6. Although there is not a surfeit of literature published on the topic of online citation tools, but much of the available literature deals largely with citation managers and generators, more specifically reviews, and comparisons. Hensley7 focuses on the emergence of citation management software and addresses the role of academic librarians in making software available and easy to use for students and scholars. The author examines the features of several citation management software programs, and offers information on the best practices for the support and instruction of the programs. Kumar8 pointed that creating citation using citation tools is not very popular and most of the researchers being unaware...
of these tools are used to manually cite the sources consulted or quoted in their document.

Citation tools are organised into four categories, these include: Citation managers, citation generators, citation guides and citation management education. Citation managers, sometimes referred to as bibliographic or reference management software, are programs that allow researchers to store, organise, output and share their bibliographic citations. Citation management software falls into one of four distribution models: desktop-based, web-based, browser-based, or hybrid. Each distribution model can be further divided into more granular categories representing proprietary and open-source material. The mission of citation tool has to provide students and faculty with a quick and simple means of citing resources with great academic accuracy and honesty. Bright suggested five best online citation and bibliography tools—EasyBib, RefDot, Citefast, Bibme, and Citation Machine. EasyBib is reviewed and rated by Curran, O’Gorman, and Erlandson. Fernandez adequately covered Zotero, but Curran and Vanhecke also provided relevant reviews. Basak and Kern & Hensley provided a comparison of RefWorks, EndNote X4, Zotero, and Mendeley, replete with a librarian’s perspective on each tool. Ovidia compares three of the free tools—Mendeley, Zotero, and CiteULike, and noted the advantages and disadvantages of each. Gilmour & Cobus-Kuo have added RefWorks to this grouping, comparing the available features as well as the accuracy of produced citations. Reher & Haustein have provided an in-depth look at the social bookmarking tools CiteULike, Connotea, BibSonomy, and 2collab in supporting science, technology, and medicine. Even though these online citation builders have been developed to provide consistent citations with the rules set out by the citation style guides, users are ultimately responsible for the citations and should be sure to proofread them for accuracy and some knowledge of proper citation formats is necessary to use these programs effectively.

In addition to above reviews, comparisons, and other related literature, university/college libraries have been engaged with the work of standardisation of citation formats and have developed online citation tools/services to help the struggling students who have probably spent more time formatting their bibliographies than writing their papers. Some notable are: North Carolina State University (NCSU) Libraries developed the Citation Builder. KnightCite is an online citation generator service provided by the Hekman Library of Calvin College. This service simplifies the often tedious task of compiling an accurate bibliography in the appropriate style by formatting the given data on a source into a reliable citation, eliminating the need to memorise minute details of style for multiple kinds of sources.

From this review of literature, it is clear that, the task of managing references with computers and software tools is not a new, but it is essential to review the accuracy of the citation before incorporating it into research work or assignment. Further, “citations can be organised and managed using folders. And also shared with and sometimes even edited by others. This is useful for collaborative or group work. A bibliography, endnotes, footnotes, or in-text citations can be generated automatically. It is often possible to export citations from one management tool into another. This is useful when one has to switch between citation tools”.

Several online citation builders that are geared towards helping students with the main academic citation styles: APA, MLA, and Chicago manual of style and brief description of popular online citation tools are presented in preceding sections.

3. ONLINE CITATION TOOLS

BibMe—makes it easy to create citations, builds bibliographies and acknowledges other people’s work online and generating MLA, APA, Chicago/Turabian citation styles and is available free and is web-based.

Citation Machine—automatically generates citations in MLA, APA, Chicago, Turabian, and Harvard.

Citation Wizard—a free online utility designed to automatically generate citations according to MLA style specifications.

CiteULike—a free service for managing and discovering scholarly references and most popular social reference management websites by helping users streamline their process of storing and managing academic references, available in free and web-based.

EasyBib—creates a bibliography quickly using the autocite or manual entry forms for 59 source types. Automatically search and cite any of the 22 designated sources and bibliography formatting for MLA (free), APA and Chicago/Turabian citation styles.

EndNote—a commercial reference management software package, used to manage bibliographies and references when writing essays and articles. It is produced by Thomson Reuters.

KnightCite—a free site that automatically produce MLA, APA, or Chicago style citations for 28 types of sources. It is provided by Hekman Library at Calvin College.

Mendeley—a free reference manager and academic social network.

NoodleTools—integrated tools for note-taking, outlining, citation, document archiving/annotation, and collaborative research and writing.

OttoBib—a website with a free tool to generate an alphabetized bibliography of books from a list of International Standard Book Numbers (ISBN) with output in MLA, APA, Chicago/Turabian, BibTeX.

RefWorks—a commercial online research management, writing and collaboration tool. It is produced by RefWorks.
COS. It is designed to help researchers easily gather, manage, store and share all types of information, as well as generate citations and bibliographies\textsuperscript{15}. 

\textit{Zotero}—web-based extension to help collect, manage, and cite research sources, compiles a library that can be accessed remotely, available in free in Windows/Mac/Linux platforms, requires Firefox browser\textsuperscript{16}.

4. STATEMENT OF THE PROBLEM

Many students come to the university unfamiliar with citation styles and with little or no understanding of how formats (i.e., article, chapter, book) are treated and evaluated differently. Skipping directly to citation managers may replace what might be a valuable part of the learning and research continuum. Additionally, citation managers and generators cannot always be relied on to format citations properly. This is a concern that is shared with many teaching faculty. Without a basic understanding of formats and citation styles, students using citation managers and generators are more likely to submit improperly formatted citations and bibliographies. Few students enjoy creating citations in the required citation styles and many of them committing errors in creation of proper citation. In addition, copying references from the web-based citation tools to word document creates citation style standards.

Citation errors are associated with different reference types and different documents referenced or cited by the author of the work. Errors in providing citation will hinder scholarly communication and adversely affect the authors, readers and academicians in the field and leave a negative impact on them regarding citing a particular work. Errors in citations of a bibliography not only raise doubts about the validity of the research, but may also hinder these functions. Faunce & Job\textsuperscript{37} posit that inaccurate citations lend suspicion to the credibility of the author. Inaccurate references or citation errors may lead readers to wonder about the care and attention given to the writing and presentation of the article, including the actual research findings detailed in that publication. One of the major parameter of determining the standard of PhD thesis is the accuracy of the citation style. Furthermore, bibliography of reference section is an integral part but often neglected component of the literature.

There are few specific studies related to citation errors by eminent authors, notable study by Lee & Lin\textsuperscript{38} who investigated the conditions of citation errors in Department of Information and Library Science (DILS) of Tamkang University in 2007 and 2011. The study found that citation error rate for DILS was 20.1%. Citation errors occurred mostly in references to books, followed by conference papers and theses. Citation error rates for each individual thesis ranged from 4% to 81.3%. The study results showed that citation instruction in graduate programmes is highly needed to promote better citation behaviour. The use of reference management tools combined with citation instruction via research methods and library instruction courses may effectively reduce the occurrence of citation errors.

Moreover, portability is now a key requirement for bibliographic management tools, so the users are looking for online tools that are flexible and easy-to-use. Users also want tools that support interaction with research collaborators. Easy sharing of references and the ability to tap into community knowledge is an interesting development but it has not yet become a 'must-have' feature. As a result, citing references accurately is critically important. “Accurate references help foster transmission of scholarly communication, whereas inaccurate references adversely affect authors, readers, and academics, reducing the accuracy of citation index databases, or even impeding scholarly communication quality or efficacy, while thus reducing the effectiveness of citation analysis”\textsuperscript{39, 40}. In this context, the present study finds out the citation management and the needs of students and how online citation tools fit into their academic and research process.

5. OBJECTIVES

The main objectives of the study are to:

(i) Know about awareness of online citation tools by the students and research scholars of the Department of Library and Information Science (DLIS), University of Delhi;

(ii) Find out the frequency and purpose of using the online citation tools;

(iii) Assess the influence of online citation tools on academic/research efficiency; and

(iv) Find out the difficulties in using the online citation tools.

The scope of the study is confined to use of online citation tools by the bonafide students and research scholars (Bachelor of Library and Information Science (BLISc), Master of Library and Information Science (MLISc), Master of Philosophy (MPhil), and Doctor of Philosophy (PhD), University of Delhi.

6. DATA ANALYSIS AND INTERPRETATION

A survey was conducted through a structured questionnaire randomly circulated personally among 70 students and research scholars in DLIS, University of Delhi and received 60 filled-in questionnaires. The response rate was 85 % during the survey period (i.e., 16–31 January 2015). The responses received from the respondents to 12 questions are presented in the form of tables and figures and analysed by using a simple method of calculation.

6.1 Distribution of Respondents

Respondents’ demographic characteristics such as gender and educational backgrounds have great impact
on the use of online citation tools. Therefore, data relating to gender and level of study have been sought from the respondents, who were pursuing their Library and Information Science programmes at the University of Delhi (Table 1).

Table 1 reveals that out of 60 respondents, females constitute 53 %, while the remaining are males (47 %). It shows that female representatives are greater than male representatives.

<table>
<thead>
<tr>
<th>Course</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
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<tbody>
<tr>
<td>BLISc</td>
<td>03</td>
<td>05</td>
<td>08</td>
</tr>
<tr>
<td>MLISc</td>
<td>14</td>
<td>16</td>
<td>30</td>
</tr>
<tr>
<td>MPhil</td>
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<td>05</td>
<td>08</td>
</tr>
<tr>
<td>PhD</td>
<td>08</td>
<td>06</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>28 (47 %)</td>
<td>32 (53 %)</td>
<td>60 (100 %)</td>
</tr>
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</table>

6.2 Knowledge of Online Citation Tools

Skills are pre-requisite to use online citation tools. The respondents are having various skills to access the online citation tools. Respondents were asked whether they know the online citation tools. Response was that all respondents 60 (100 %) were aware the online citation tools and were using the same for their project reports, assignments, dissertations, theses, and other academic/research work in the Department.

6.3 Frequency of Use Online Citation Tools

The most important aspect of the usefulness of the online citation tool is regularity. Respondents were asked about the frequency of use of online citation tools. The questionnaire providing five different frequency and responses is presented in Fig. 1. It clearly indicates that 36(60 %) respondents make use of online citation tools occasionally, 22 % monthly, 10 % weekly, and 5 % two or three times a week. Only 3 % of respondents use the online citation tools daily.

The frequency use of online citation tools by respondents depends on the nature of the project/dissertation/thesis work. Further, it is revealed at the time of the study that the respondents use the tools during the last phase of their academic/research work. It is also revealed that the availability of bibliographical citation tools is free, which gives them the instant creation of bibliographies.

6.4 Type of Online Citation Tools Used

There are many online citation tools existing both free and commercial for Windows, Linux and Mac platforms. The students and research scholars are using different such tools for their academic/research work. The questionnaire facilitated ten online citation tools and multiple responses regarding usage of the tools are presented in Fig.2.

Figure 2 denotes that majority of respondents used the EasyBib citation tool with 53 %, followed by BibMe with 22 % and EndNote & Online works with 6 % each and Citation Builder with 5 %. EndNoteweb citation tool was least used with 2 %. They enable to create references automatically, generate the reference list; create links between the component of the citation in the text and the reference list, and “formatting bibliographies through plug-ins”.

6.5 Sources of knowledge about Online Citation Tools

The respondents were further requested to indicate how to learn to use online citation tools in their academic/research work. Awareness of the tools came from several different means, including from a friend, research supervisor, librarian, or internet search. Additional ways that students learned of the tools include from the library’s website, or from self instruction, trial and error method, or colleague. A question was asked to know, through which sources they came to know about online citation tools. Figure 3 presents different access skills of the respondents.

As indicated in Fig. 3, (53 %) learned about citation tools through DUL’s website, followed by guidance from...
that the respondents use the online citation tools for their research work.

6.7 Place of Access Online Citation Tools

A question was asked to know about the place of access of online citation tools from respondents (Figure 5). Figure 5 clearly indicates that 63% of respondents use online citation tools from Delhi University Computer Centre, followed by DULS Libraries (48%), Department Computer Labs (30%), Home (20%), Cybercafe (10%), and Department Library (7%). Interestingly, 27% of respondents use online citation tools from other places, i.e., university hostels and college libraries.

6.6 Purpose of Using Online Citation Tools

Online citation tools have a wide variety of features like “automatically create in-text references, bibliographies and footnotes in a variety of citation styles, manage collections of various types of research materials, including citations, charts, documents, PDFs, links, equations, screenshots, graphs, images, import citation information directly from the Library’s Catalog, online indexes and databases, and the Web, and share your library of citations with other researchers”43. These tools also “format citations for papers, and take notes on articles and save them in collection of citations”44. The purpose of using online citation tools differs from one user to another. Even though the purposes are many, the respondents use online citation tools for various purposes. The questionnaire provided for major purposes and their responses are presented in Fig. 4.

Figure 4 shows that 78% of the respondents use online citation tools for research work (thesis/dissertation/project work), followed by literature review (40%), and completion of assignments/seminar presentations (32%). The percentage of respondents using such tools for publishing articles is 17%. It is interesting to perceive

6.8 Ease of Use

Respondents were asked to ascertain whether online citation tools are easy or difficult to use. The questionnaire provided is five ratings and responses are provided in Fig. 6. It reveals that 80% found that the online citation tool is very easy to use. A further 17% found it easy to use and 3% respondents noted that it is moderately easy to use. The most important finding is that no one stated that the online citation tool is difficult and very difficult to use. The results affirm that usage of online citation tools among the respondents were easy rather than difficult.

6.9 Influence of Online Citation Tools on Academic Efficiency

The benefits of online citation tools can be readily seen. It is easy to import and export records from online databases and is also able to connect many online databases to search records. The information on
imported date, data source, and a link if the record was imported from the web, are automatically stored in the web-based citation management tools. If the searched item does not have a permanent location on the web, it is possible that the item was moved from the location, and/or modified. Therefore, this kind of information is important. These are designed to capture visual and audiovisual information on the web. This function greatly extends the ability to retrieve information, shared by a group or collaborative work.

A number of citation management programs allow the user to “automatically download references from an electronic literature into a database. This function enables the author to avoid typing details such as author names, article title, or journal information. It also allows the user to search the literature database from a link within the program”45. Online citation tools consist of a database in which full bibliographic references can be entered, plus a system for generating selective lists of articles in the different formats required by publishers and scholarly journals. They enable to automatically number the references; generate the reference list; create links between the component of the citation in the text and the reference list; store, edit, sort and manage references; electronically create bibliographies; import references from databases and library catalogues; change referencing styles with the click of a button; edit or create own referencing style; cite references in Microsoft word documents instantly while writing, and share references with other students/research scholars.

In view of the above, a multiple choice question was asked from the respondents to impinge on their academic efficiency. The views of the respondents regarding various possible ways by which online citation tools influence the academic/research work are depicted in Fig. 7. Forty six (77 %) of the respondents said that it generate references list automatically, followed by 63 % who were of view that it helps in automatic number the references and e-creation of bibliography, 58% said it saves references in word document, 47 % said that it helps in saving, printing or emailing the reference list, 45 % said that it is easy to download the references, 30 % said that it can change the referencing style with click of a button, and 38 % said that it can share the references with others. 3 % mentioned other academic use, i.e., citations can be shared with and sometimes even edited by others and export citations from one management tool into another. The results are also consistent with the findings of Conrad, Leonard & Somerville46 as they stated “managing citations, organising documents, storing documents, and conducting searches”. Similar results can be seen in the study of McCue47 as they stated “the two major benefits that come from effectively using digital capture, search and collaboration tools, are (a) an increase in the speed and (b) improved quality of the research being performed.”

Online citation tools have proved to be the effective means for students and research scholars to prepare automatic citations and find plenty of articles, which they read and subsequently cite in their work. In this way, online citation tools are crucial in influencing the students and research scholars saving lot of time in their final stage of academic/research work.

6.10 Support of Preferred Citation Styles

Respondent were asked whether online citation tools support the citation styles that they prefer. Majority of the respondents 35(58 %) said that the online bibliographic citation tools support the citation styles gives positive responses and remaining 25 (42 %) said that it doesn’t support their preferred citation styles.

6.11 Difficulties in Using Online Citation Tools

There are few difficulties while using the online citation tools by the respondents for completion of their academic/research work. The respondents were requested to furnish the details regarding the difficulties faced while using online citation tools. The major difficulties faced by respondents in accessing the online citation tools are identified and provided in the questionnaire and responses are depicted in Fig. 8.

Figure 8 highlights that the most obvious impediment is that they have never used the online tools before (47 %), followed by major difficulty of respondents faced due to lack of training (35 %), lack of citation styles knowledge (30 %), language difficulties (27 %), lack of technical support (23 %), lack of terminals (20 %), instructions in online citation tool is not clear.
resources open up many exciting opportunities and have solving research problems. In this environment, these in bibliographic styles, creating easy bibliography, and since they provide automatic reference linking, flexibility style. On the basis of above discussion it can be stated and consulting the rules of the recommended citation creation as they can do so without remembering citation creation has eased up the researcher’s efforts for sources as per the approved citation style. The online The creation of citation is a cumbersome process for the acknowledgement, it reveals that indebted to that source. As a signpost, it signals the location of source. As an citations pertaining to library and information science. 

6.12 Need for Training

The number of online citation tools being developed using variety of user interfaces and more sophisticated searching features. For effective use of these tools, retrieving skills are necessary for novice user. In view of this, a dichotomous question was raised to students and research scholars whether orientation/training is required or not. Out of 60 respondents, 15(25 %) wanted training in using online citation tools for creating efficient references. However, remaining 45 (75 %) stated that the training programme is not required. The reason behind probably is that they are familiar with the skills and adequate techniques for the creation of bibliographic citations pertaining to library and information science.

7. CONCLUSIONS

A citation is both a signpost and an acknowledgement. As a signpost, it signals the location of source. As an acknowledgement, it reveals that indebted to that source**. The creation of citation is a cumbersome process for the researchers as they need to know the rules for citing sources as per the approved citation style. The online citation creation has eased up the researcher’s efforts for citation creation as they can do so without remembering and consulting the rules of the recommended citation style. On the basis of above discussion it can be stated that the features of online citation tools are very bright since they provide automatic reference linking, flexibility in bibliographic styles, creating easy bibliography, and solving research problems. In this environment, these resources open up many exciting opportunities and have already brought revolutionary transitions in research work particularly, review of literature and bibliography of the project reports, dissertations, and theses.

The results indicate that all the respondents are aware of online citation tools. Most of the respondents make use of online citation tools occasionally. The most used online citation tool is EasyBib and is the first choice. The survey results show that most of the respondents learned the online citation tools through department’s website. The main purpose of students and research scholars to use the online citation tools for their academic/research work. Most of the respondents accessing online citation tools from the Delhi University Computer Centre. Most of the students had not received any training and for those who attended the training programme, a majority of them noted that it was very easy to use. Simplified and easy bibliography and automatic creation of references list are two major benefits of online citation tools. The most obvious impediment is that they have never used the online tools before. A very few respondents wanted training in using online citation tools for electronically create bibliographies, import references from databases and library catalogues, change referencing styles with the click of a button, edit or create own referencing style, and share references with other students/research scholars.

Respondents have realised the advantages of online citation tools and seem to have it as the primary medium of research ideas and results. The study proposes the following suggestions for effective use of online citation tools: (i) Citation tools have a mobile site (responsive site) or mobile app; (ii) more publicity to online citation tools in various social media by university library; (iii) Delhi University Library System (DULS) consist of 37 libraries, may introduce citation management education and include introducing concepts or tools in bibliographic instruction, classes on using citation managers, or one-on-one consultation with a subject or technology specialist; and (iv) DLIS may equip and provide more computers to students and research scholars for effective use of online citation tools.

The findings of the study will not only help the Library and Information Science students about knowing what a citation is and understanding the concepts of citation styles and formatting, but also help citation related competencies and skills in recognizing citations and understanding their functions in research.

These findings may also help the developers of the free online citations tools to enhance more features/services to suit the collaborative user. It could be said that “citation management is the foundation for scholars to begin collecting, managing, and archiving their research findings as well as their own scholarly output. If libraries are to reinforce these goals, they need knowledgeable staff and an effective program to support the citation needs of their users”**.
REFERENCES


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**Dr M. Madhusudhan** is currently working as Associate Professor in Department of Library and Information Science, University of Delhi. He has 16 years of teaching, administration and research experience at the University level. Under his supervision, 17 MPhil, 6 PhD and 110+ project reports have been awarded. He has published one book, edited two books, 32 international research articles in peer-reviewed journals, 20 chapters in books, 9 national articles, and 7 international conference papers. He is also Editorial Board member of JLIS, IJLIS and reviewer for five international LIS journals. His areas of interest includes: Designing and evaluation of websites, evaluation of web-OPACs, information communication technology in libraries, social networking sites, e-resources, mobile-based library services, etc.