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Everything Online is a Website: Information Format Confusion in Student Citation Behaviors

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Abstract

The ability to effectively cite information sources is key to both student avoidance of plagiarism and the ongoing scholarly conversation. Previous research and experience indicated that students had significant trouble distinguishing and citing various information formats when viewed online; items are often cited as websites, and citations are incomplete or contain erroneous and extraneous information. The authors investigated the prevalence of these problems at their university, seeking out common patterns in the data to determine what, if any, information literacy objectives may be useful for future studies and instructional practice.

Keywords: bibliographic citations; information formats; information literacy

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Everything Online is a Website: Information Format Confusion in Student Citation Behaviors

Introduction

Students must effectively use and cite information sources in order to succeed academically and to learn to participate in the scholarly conversation. Through experience working with students in the classroom and online, the authors have noticed students struggling to create citations for online materials such as journal articles, e-books, and websites. For example, students often cite a journal retrieved from a database as a website. These observations combined with previous research (Greer, 2016) informed the development of this study, which investigates patterns of errors related to citing online sources among undergraduates in writing-intensive courses at Oakland University. The authors also explore citation behaviors and students' proficiency with using the *Publication Manual of the American Psychological Association*, Sixth Edition (APA Style). Results of this research may have implications for information literacy instruction practices, and in particular, the improvement of citation skills as part of a larger effort to develop mature academic writers and thinkers.

Literature Review

The literature concerning the formation of students' citation skills is sparse, but a recent study noted that students have difficulty with source type identification, cautioning that "if a student does not understand what type of material s/he is examining, then it is impossible to use the manual to select the correct citation format" (Park, Mardis, & Ury, 2011, p. 45). Stevens (2016) reported on a workshop in which students had to identify citation errors, and found that they struggled with applying citation style examples to their citations. Additionally, Van Note Chism and Weerakoon (2012) showed that even at the doctoral level, students become confused with identifying various print and electronic formats. As the authors reported, "While students most easily recognized books, book chapters, and journal articles, they had trouble with separately-titled volumes in a series, conference presentations, and *electronic sources*" (p. 33, emphasis added). Before widespread access to online resources further confused students' understanding of proper citation creation, St. Clair and Magrill (1990) noted that students citing books "have lower rates of incomplete citations than if they cite only journals" (p. 77). Lewis (2008) argued that the new APA Style conventions for electronic resources would frustrate users who already struggled with basic

citations, and Kargbo (2010) showed that undergraduates typically have low confidence in their own citing abilities. Numerous online citation tools exist to mitigate this confusion; however, they are characterized by high rates of errors (Dahlstrom, 2012; Stevens, 2016; Van Ullen & Kessler, 2012).

As noted in the Association of College and Research Libraries (ACRL) *Information Literacy Competency Standards for Higher Education* (2000) and its *Framework for Information Literacy for Higher Education* (2015), correctly identifying, using, and citing information sources are cornerstones of student success. Additionally, Davis (2003) argued that students' preference for using online information creates more need for instruction in citing those materials.

Instruction in citation styles often falls to first-year writing professors and librarians (Mages & Garson, 2010; Park, Mardis, & Ury, 2011); however, campus writing tutors also assist with this undertaking, especially when partnered with librarians or subject faculty (Cannon & Janson, 2009). Sometimes, instructors in specific disciplines take on the responsibility of teaching proper citation skills. For example, psychology professors Franz and Spitzer (2006) provided students with citation formatting templates and/or checklists. However, Robinson and Schlegl (2004), argued that instruction alone does not motivate students to improve their citation skills; rather, there must be enforceable penalties set by their professors in order to see changes in behavior.

Methodology

The authors recruited undergraduate students enrolled in writing-intensive courses, particularly those in first-year writing classes. These courses require the use of APA Style and are foundational for writing and research.

Students viewed several online resources and provided a citation for each in a Google Forms survey. This platform is used on campus, so most students were familiar with it and its intuitive interface. Each question included a screenshot of an online resource, either from one of the library subscription databases or from the internet, with response fields for students to enter the citations (see Appendix A). Links to the items were included so that participants could view and interact with each resource. In addition, each question included a link to the Purdue OWL APA Style guide.

The survey included materials that students could discover by using the library discovery system or open web resources: two e-books, two journal articles, and one website.

Participants' data was automatically entered into a Google Sheets spreadsheet and was

analyzed both quantitatively and qualitatively using that app as well as Google Fusion tables. The authors reviewed survey responses to ascertain if participants followed APA Style, identified and used the correct citation format for the information type, included required elements, and avoided major errors.

Results

Respondents

A total of 63 students participated in the survey. The survey included demographic questions: sex, major, year in school, comfort level with citations, and preferred citation style. Of the 63 respondents, 43 were female and 34 were in their first year of school. There were 24 respondents from Health Sciences, but most major disciplines were represented. Just over half of the students (35) reported being comfortable with writing citations, and the majority (51) indicated that APA was their preferred format for citations.

E-book Citations

The survey asked students to write citations for two e-books, both of which were library resources. For the first e-book, 35% (23) of respondents correctly identified it, but only 13% (8) created a proper APA citation. For the second e-book, 54% (34) recognized the source as an e-book, but only 16% (10) formulated a correct citation. The students who correctly identified the source but did not create a proper citation primarily struggled to identify the publisher location (Table 1).

Table 1: Proficiency in Identifying Parts of a Citation for an E-book

Part of Citation	E-book #1 Incorrect % (n)	E-book #2 Incorrect % (n)
Author	8.70% (2)	32.53% (11)
Date	8.70% (2)	17.65% (6)
Title	4.35% (1)	0% (0)
Publisher	0% (0)	2.94% (1)
Publisher Location	65.22% (15)	55.88% (19)

Journal Article Citations

Students fared better with citing the two journal articles accessed through library databases. For the first journal article example, 43% (27) of respondents correctly identified it, and 67% (18) of them were able to formulate a proper citation. Additionally, 57% (36) were able to identify the second source as a journal article, and 64% (23) of them created a correct citation. The students who were unable to create a correct citation despite correctly identifying the type of source had difficulty identifying volume information for the journal and had trouble with other components as well (Table 2).

Table 2: Proficiency with Identifying Parts of a Citation for a Journal Article

Part of Citation	Journal Article #1 Incorrect % (n)	Journal Article #2 Incorrect % (n)
Author	22.22% (2)	30.77% (4)
Date	33.33% (3)	38.46% (5)
Title	22.22% (2)	15.38% (2)
Journal	22.22% (2)	7.69% (1)
Volume	66.67% (6)	46.15% (6)
Pages	33.33% (3)	38.46% (5)
URL	22.22% (2)	38.46% (5)

Website Citations

The survey required students to form a citation for an article on a website. Students proved adept at this task with 75% (47) of respondents correctly identifying the source and 57% (27) of them writing a correct APA citation. The respondents who identified the source but wrote incorrect APA citations did not include a proper URL. Their areas of struggle are detailed in Table 3.

Table 3: Proficiency in Identifying Parts of a Citation for a Website

Part of Citation	Website Incorrect % (n)
Author	35.00% (7)
Date	15.00% (3)
Title	10.00% (2)
URL	50.00% (10)

Discussion

Although the study set out initially to examine the issue of whether students could effectively identify different information formats in the online environment and subsequently cite them correctly, the data provide a much richer story. The source type for each resource was correctly identified 53% of the time, and only 27% of the responses provided correct APA citations. For each of the survey prompts, students tended to use the citation format for websites as their default format. For example, 44% of the respondents cited the first e-book in the survey as a website. None of the respondents used the e-book citation format for this resource, and only 35% correctly identified it as a book (Table 4).

Table 4: Formats Used to Cite E-books

E-book Cited as	E-book #1	E-book #2
Book	22	19
E-book	0	15
Website	28	22
Other	13	7

The prevalence of the website citation format reflects student reliance on web-based research. It also suggests that students may not distinguish between information formats when accessing information online, viewing everything accessed online as a website. However, based on the authors' classroom experience, when provided with a physical book or journal, students do not use the website citation format.

Initially, the authors were surprised that a higher percentage of the respondents (24%) correctly used the e-book citation format on the second e-book survey prompt. However,

after scrutiny it became clear that students probably used the database's citation generator for these citations. In database-generated citations, there were repeated punctuation or content errors that were the result of errors in the library database. For example, Figure 1 shows a suspected database-generated citation that has the colon separating the publisher location and name but is missing the location. Whenever these database-specific errors appeared in a citation, the researchers noted that the citation was likely created using the database's citation generator.

Figure 1: Suspected database-generated citation

Kowert, R. (2014). Video Games and Social Competence. : Taylor and Francis. Retrieved from <http://www.ebrary.com.huaryu.kl.oakland.edu>

Other student citation responses appeared to be system-generated, but they did not match the database's version. Two students provided the citation in Figure 2. The inclusion of "ebrary, I" as an author and the out of sequence dates suggest the citation was not typed by the students. This particular format matches the citation generated by the library's discovery tool, which indicates that the participant left the resource page, searched for the title on the library website, and then used the citation tool. First-year writing courses have a required library component in which students use the discovery tool and are introduced to this citation feature. Survey participants may have just received that lesson; however, it could also reflect an established pattern of behavior, where the student knows this tool, has used it extensively, and does not branch out beyond what is familiar.

Figure 2: Suspected citation generated by the library discovery tool

Juul, J., & ebrary, I. (2010;2012;2009;). A casual revolution: Reinventing video games and their players. Cambridge, MA: MIT Press

For those students who did write their own citations, it proved difficult to choose the correct citation format. Respondents correctly identified source format only 53% of the time. However, when the suspected system-generated citations are excluded, that number falls to only 37.5%. The data indicate that students were either citing sources as websites (Table 5) or they were perhaps just guessing.

Table 5: Formats Used to Cite Journal Articles

Journal Article Cited as	Journal Article #1	Journal Article #2
Journal Article	27	36
Website	19	12
Other	17	15

Students who correctly identified the format often were not able to provide a correct APA citation. Even when students self-identified as being comfortable with the citation style, they struggled with correct formatting (Table 6).

Table 6: Correct APA Citations by Preferred Citation Style

Citation Type	Preferred = APA (<i>n</i> =51)	Preferred = Not APA (<i>n</i> =12)
E-book #1	11.8% (6)	16.7% (2)
E-book #2	19.6% (10)	0% (0)
Journal Article #1	31.4% (16)	16.7% (2)
Journal Article #2	39.2% (20)	25% (3)
Website	47.1% (24)	25% (3)
Overall	29.8%	16.7%

Students also had difficulties including the relevant citation elements. In the example in Figure 3, the student included the requisite title, author, and date information needed for an e-book citation, but then added the Library of Congress call number plus an extra string of characters labeled “ISO.” Students also included other extraneous information, such as page counts and ISBNs. They also misidentified or left out the publisher and place of publication and sometimes inverted the authors’ names. The student who wrote the citation in Figure 4, for example, provided the publisher, but left off the location information.

Figure 3: E-book citation with added elements

Juul J., (2012 February) A Casual Revolution: Reinventing Video Games and Their Players
ISO:Gv1469.34.P79-JBB2009eb

Figure 4: E-book citation with missing element

Juul, Jesper(2012) A Casual Revolution : Reinventing Video Games and Their Players. The MIT
Press

The misidentification or exclusion of portions of the required citation continued through the journal article citation data. The journal title proved to be problematic. In Figure 5, the student included the database title in place of the journal title or perhaps added it because they did not know which citation format to use. The authors theorize that the prominent display of a database logo, typically in the upper-left corner of the user interface, causes confusion for users already struggling to navigate many types of information accessed online.

Figure 5: Journal article citation with misidentified journal title

Merchant, G. (2004, July). What Video Games Have to Teach us about Learning and Literacy. In
Proquest.

Although students preferred to cite sources as websites, the data show that students do not understand URLs. When required to provide a resource URL, as in the website citation format, many students provided the redirect link from the survey form (see Figure 6). Respondents also provided links that included the library's proxy server information. One student appeared to have Googled the e-book title in order to come up with a URL that redirects to a website selling the item (see Figure 7). The responses also suggest that students typically copy and paste this component of the citation without any evaluation of the URL itself (e.g., whether it was a stable link or reflected the correct information). In Figure 8, the student copied and pasted the link from the Purdue OWL guide to APA style instead of the database link.

Figure 6: Website citation with survey re-direct link as URL

Fitzpatrick, A., (2016, July 11). How 'Pokemon Go' Took Over the World. Retrieved from
https://www.google.com/url?q=http://time.com/4400791/pokemon-go-iphone-android-nintendo/?iid%3Dsr-link2&sa=D&ust=1477502067737000&usg=AFQjCNE54n_xAU1PiY--Zmd_tfVbtvUnug
 [emphasis in URL added]

Figure 7: E-book citation with Googled URL

Kowert, R. (n.d.). Video Games and Social Competence. Retrieved November 14, 2016, from
<https://www.vitalsource.com/products/video-games-and-social-competence-rachel-kowert-v9781317620136>

Figure 8: Journal article citation with Purdue OWL as URL

Merchant, G. (2004, July). What Video Games Have to Teach us about Learning and Literacy./
 New Literacies: Changing Knowledge and Classroom Learning. Retrieved from
owl.english.purdue.edu/owl/resource/560/01/.

Students also struggled with understanding what a DOI is, how to find it, and how to use it in a citation. Students who attempted to include a DOI often confused it with an ISBN or other number string, and/or mislabeled it, as in Figure 9.

Figure 9: Citation with DOI confused with ISBN

Kowert, R. (2014). Video games and social competence. Routledge advances in game studies. Do.
 9781138804265

Conclusion

The results of this study have important implications for information literacy instruction. The data indicates that students do not understand information sources when they conduct research online. All online information formats appeared to be relegated to website status by

the majority of students and viewed as equally valid sources. Librarians need to carefully evaluate information literacy outcomes related to these skills. The data indicate that IL sessions focus on search strategies without ensuring that students can critically evaluate their results. When teaching students to read a record, librarians could include a discussion about what the proper citation for the item would be, how to locate its various components, and the similarities and differences between print and electronic formats.

Of significance was the revelation that the students, belying their digital native status, did not appear to be able to read URLs, a critical skill for those who use, share, and cite websites and other online content. The purpose of a citation—to give readers the ability to verify or read the information cited on their own—is lost when the information cited cannot be traced back to its source. This apparent lack of skill poses a challenge for librarians in a one-shot session because URL literacy cannot be addressed adequately as a smaller portion of an information literacy lesson. However, it could be taught effectively using instructional technology, such as a web tutorial, a topical guide, or as an interactive lesson housed within a learning management system.

The results also merit further study in order to verify some of the behaviors that the data suggest. The authors' next step is to test the effectiveness of instructional interventions to address the missing skill sets. One of the library's most critical roles remains supporting students in the task of understanding and properly using information, and each step taken to do this more effectively benefits the university community.

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Appendix

Survey Screenshots

Citation 1

Using the Purdue OWL as a guide, please cite this resource in APA format as you would for a research paper bibliography.
 Purdue OWL: owl.english.purdue.edu/owl/resource/560/01/ *

BIBLIOGRAPHIC INFO	
TITLE	Video Games and Social Competence
SERIES	Routledge Advances in Game Studies
AUTHOR	Kowert, Rachel
PUBLISHER	Taylor and Francis
PRINT PUB DATE	2014-11-27
EBOOK PUB DATE	N/A
LANGUAGE	English
PRINT ISBN	9781138804255
EBOOK ISBN	9781317520143
OTHER ISBN	1138804255
PAGES	246
LC SUBJECT HEADINGS	Video games -- Social aspects. Video games -- Psychological aspects. Social psychology.

Resource Link: <https://huarvu.kl.oakland.edu/login?url=http://ebookcentral.proquest.com/huarvu.kl.oakland.edu/lib/oakland/detail.action?docID=1873842>

Your answer

Citation 2

Using the Purdue OWL as a guide, please cite this resource in APA format as you would for a research paper bibliography.
 Purdue OWL: owl.english.purdue.edu/owl/resource/560/01/ *

BIBLIOGRAPHIC INFO	
TITLE	A Casual Revolution : Reinventing Video Games and Their Players
CONTRIBUTOR	Juul, Jesper
PUBLISHER	The MIT Press
DATE PUBLISHED	February 2012
LANGUAGE	English
PAGES	261
DOCUMENT TYPE	Book
LC SUBJECT HEADINGS	Video games -- Psychological aspects. Video games -- Psychology.
LC CALL NUMBER	GV1469 .S4 J79 --J8B 2009eb

Resource link: <https://huarvu.kl.oakland.edu/login?url=http://site.ebrary.com/lib/oaklandu/Top?id=10347250>

Your answer

Citation 3

Using the Purdue OWL as a guide, please cite this resource in APA format as you would for a research paper bibliography.
Purdue OWL: owl.english.purdue.edu/owl/resource/560/01/ *

ProQuest

What Video Games Have to Teach us about Learning and Literacy/ New Literacies: Changing Knowledge and Classroom Learning.
Mehrsart, Sog Library 38.2 (Jul 2004): 113-114.

Full text availability: [Link to full text](#) — Get it @ OU Libraries — GET IT @ Keesee Library

Abstract

Reviews two books What Video Games Have to Teach us about Learning and Literacy by James Paul Gee and New Literacies: Changing Knowledge and Classroom Learning by Colin Lankshear and Michele Knobel. Over several years Gee has been reflecting his ideas about how learning takes place in different semantic domains. His experiences with video games are enthusiastically described in this book, but Gee is always keen to point out precisely how learning to play and learning to succeed are structured. The central claim is that game designers know more about learning than academics, and that the principles of socially situated cognition, distributed knowledge and identity work are central to successful gaming, are characteristic of good learning, and could be more influential in classrooms than they currently are. Compared to Gee's book, New Literacies: Changing Knowledge and Classroom Learning by Colin Lankshear and Michele Knobel has a narrower focus. The book focuses on two distinct ways in which 'new' is used to describe literacy. The first of these is concerned with new perspectives on literacy and in particular the sociocultural perspective that is often referred to as the New Literacy Studies. The second and wider concern is with the emergence of new literacy practices, mostly (but not always) associated with new and popular users of technology. (PsycINFO Database Record (c) 2016 APA, all rights reserved)

Resource link: <https://huarvu.kl.oakland.edu/login?url=http://search.proquest.com/docview/620417309?accountid=12924>

Your answer

Citation 4

Using the Purdue OWL as a guide, please cite this resource in APA format as you would for a research paper bibliography.
Purdue OWL: owl.english.purdue.edu/owl/resource/560/01/ *

EBSCOhost

Searching: Business Source Elite Choose Databases

AN 116736921 Select a Field (option...) Search Create Alert Clear

AND Select a Field (option...)

AND Select a Field (option...)

Basic Search Advanced Search Search History

Result List Refine Search 1 of 1

Detailed Record

Get It @ OU Libraries

Related Information

Find Similar Results using SmartSet Searching.

Videogames and their clones – How copyright law might address the problem.

Authors: Corbett, Susan¹ Susan.Corbett@vuw.ac.nz

Source: Computer Law & Security Review, Aug2016, Vol. 32 Issue 4, pp19-4322. 4p.

Document Type: Article

Subject Terms: COPYRIGHT; INTELLECTUAL property; VIDEO games; INTERNATIONAL utilization of law

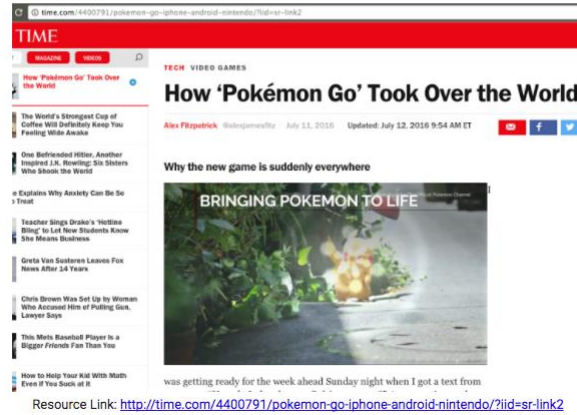
Author-Supplied Keywords: Copying

Resource link: <https://huarvu.kl.oakland.edu/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=bsh&AN=116736921&site=ehost-live&scope=site>

Your answer

Citation 5

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Your answer