

AN EXPLORATORY STUDY OF STUDENT PERCEPTIONS OF MEDIA ARTICLES IN THE MAINSTREAM

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ABSTRACT

The Internet has provided a large opportunity for an abundance of information to be produced and available with very little cost. One of the downsides of this ‘free’ information is the credibility and legitimacy of the facts and the news source. One important goal of academia is to ensure that students are able to learn critical thinking techniques and be able to evaluate an author’s intention in material presentation, their qualifications, and most importantly the message imparted and whether or not that message is verified. This study seeks to evaluate how students obtain their news and research information as well as the current state of student’s perception and their evaluation of purported news articles available in the Internet. Fifty-eight students participated in an exploratory study where each student reviewed seven different articles and asked to respond to several questions regarding author role, motivation, credibility, as well as if information presented was perceived as factual or opinion. This study found that the websites that students were selected to utilize had an impact on their ability to accurately assess the credibility of articles on the Internet.

Keywords: Information literacy, Adult Literacy, Educational Change, Educational Environment, Information Technology, Internet, Media Literacy, Website Evaluation

INTRODUCTION

One of the recognized gains of the Internet is the ability to maintain a free flow of information. As the Internet matured so has the increased use of the distribution of information. In addition to the large amount of information available there has been the increase of fraudulent or predatory information with malicious intent. Perhaps one of the best illustrative examples comes from a self-professed media manipulator Ryan Holliday where he says, “He is paid to deceive. My job is to lie to media whose job is to lie to you.” While technology has provided for advancement with the ability to receive and generate information, humans have not been as successful in learning and promoting tools of information literacy accuracy. This study seeks to investigate the information literacy competency and evaluative skills of the undergraduate student computer user in an effort to provide a contribution to any mechanism that can assist the average computer user to be able to discern fact from fiction.

PRIOR RESEARCH

In their study of how the Internet has changed with Web 2.0 technologies, Greenhow et al (2009) discuss the shift in the use of the Web, from a predominantly “read-only” modality into a more collaborative and participative practice known as Web 2.0. Web 2.0 allows learners to create, consume, and share independently produced information, media, and applications on a global scale. Many features encourage interconnections among learners, allowing them to develop their networks and increase the number and range of people to consult for feedback or support. This ability also produces a significant amount of information that may not be reliable or pertinent, which contributes to increased student information illiteracy. Students increasingly have difficulty ascertaining if information is reliable, especially if the information is from a collaborative forum, peers or friends.

Brandt (1996) discusses the importance of information found on the Internet being valid, reliable, authoritative and pertinent. He describes the emphasis by Purdue Libraries’ evaluating the quality of research regardless of where it is found. The reliability of information found on the Internet can often be determined by checking an author’s credentials, assessing potential bias and determining the purpose of such information.

Instead of just identifying the problem or lack of information literacy skills, Fritch & Cromwell (2001) created a filtering system to ascribe authority. This system relates to credibility and quality of the website or web page. Four

classes are used and require an iterative process to assess the authority: document, author, institution, and affiliation. The classes relate to previous research by Rieh and Belkin (1998) who identified organization affiliation as an important factor and Alexander and Tate (1996-1999) who used evaluative criteria by grouping web pages into different categories.

Omar & Mwitumbe (2014) surveyed 303 students, deans, library staff, and administrators at three Zanzibar universities to understand information literacy skills at a more micro-level than prior studies. They determined that information competencies were not being taught well beyond the orientation programs in the libraries. Current systems are not sufficient to help students locate, evaluate or effectively use needed information. Teaching these skills should not only be taught by library staff but instead should extend to academic departments. This research is consistent with what Bush (2009) suggested such that teachers should require students to verify information, question authority of the website or printed text, and not rely on few gatekeepers.

Biddix, Chung and Park (2011) evaluated student participant responses addressing internet usage practices in student research and found that student preference was directly tied to efficiency. However, students did consider the trustworthiness of the information recovered. If library databases are to remain viable access points, these databases must be simplified with the look and feel of a public search engine. Students may benefit from training modules and specific instruction on how to find and properly evaluate publically obtained resources.

To determine student ability to evaluate online sources, Barzilai & Eshet-Alkalai (2015) studied the effect of epistemic perspectives (absolutist, multiplist and evaluativist) in the critical construction of diverse online sources. They hypothesized that learners with evaluativist views of knowledge are better able to comprehend online source perspectives. The results support the claim that the nature of knowledge and knowing play a prominent role in the comprehension and integration of multiple online sources. It was also evident that few students referred to author perspectives, motivations or biases in their source credibility evaluations. It is important to recognize a learner's epistemic perspectives when determining whether learners can successfully recognize and evaluate author perspectives, motivations or biases.

The format of this study is as follows. First is a discussion of a new information literacy assessment model along with research questions and methodology. This discussion is followed with the results of our survey. The last section discusses limitations and future research possibilities.

INFORMATION LITERACY ASSESSMENT MODEL

This study seeks to evaluate how students obtain their news and research information as well as the current state of student's perception and their evaluation of purported news articles available in the Internet. In the course of investigation, a new information literacy model was created to determine how students are able to discern credibility of news articles by using critical thinking techniques. The start of this model was to ask the student to report where they obtained their sources of news information. After this information was collected, the students were introduced to a simple model of evaluating articles that progressively increased in difficulty of discerning the variables of author role/type, statement validation (citation), article purpose and lastly article type. Figure 1 shows the model progression and the variables are defined and explained below:

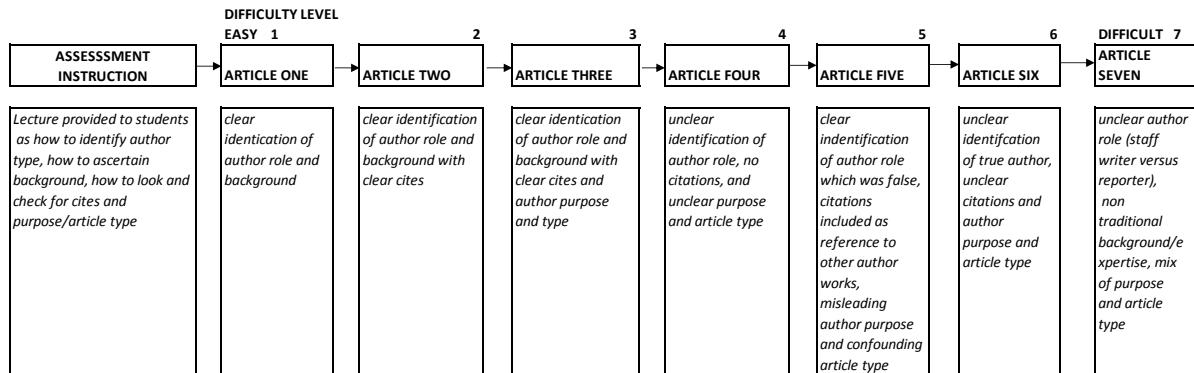
AUTHOR ROLE/TYPE – Three main classifications were offered: reporter, expert in the field, or 'another'. The goal was to see if the reader could distinguish the foundation of the writer from either a professional news organization/source or that of more business/consulting background. The third component of the author type variable made allowances for other criteria that may not fit into the one of the two most commonly assumed authorship roles. For example, a staff writer is a position that is not quite a reporter and not really an expert in a field. Likewise an executive director of an organization may not be an expert and rather have more a managerial background.

STATEMENT VALIDATION – This variable addressed both the use of the author's ability to back up and cite sources as well being able to validate the sources cited. Often new articles on the web will list citations only to have them refer back to an article that was written by the same author.

ARTICLE PURPOSE – This variable is defined as either being informative, persuasive, or entertaining.

ARTICLE TYPE – This variable is defined as whether or not that article is derived from fact or made up of the authors’ opinion.

Figure 1. Information Literacy Assessment Model Process Evaluation



1. The first step of the process is to conduct a survey at the beginning of the semester to determine each student’s personal assessment of their sources for news information on the Internet. The next part was an introduction to the assessment by providing a lecture that illustrated tools on how to evaluate articles on the Internet. This lecture included the discussion of the variable types previously described as well as proving the students with a sample article to evaluate. The students are then instructed to continue on the other articles when they are comfortable to start.
2. Article one is a simple article that has a clear identification of author role/title and background.
3. Articles two through seven continue to build off of each previous article in level of difficulty in terms of being able to clearly identify author role, citations, purpose, and type.
4. This model was created to suit a specific course, namely Introduction to Information Systems, where one of the main deliverables is determining information literacy and critical thinking skills. Once the students have *completed all the articles*, a debriefing lecture activity is provided so the student again make their own assessment of the experience and knowledge obtained.

RESEARCH QUESTIONS

This study seeks to further examine issues related towards student’s perception of media articles available on the Internet. Specifically, the study sought to determine if the sources of new information preferred by students impacted their ability to accurately access a news article. The research questions were as follows:

1. Do the sources of news information preferred by students impact their ability to assess overall article credibility (author role / type)?

H1: Sources of news information preferred by students will impact their ability to assess overall article credibility.

2. Does the sources of news information preferred by students impact their ability to assess article author accuracy (statement validation)?

H2: Sources of news information preferred by students will impact their ability to assess article author accuracy.

3. Does the sources of news information preferred by students impact their ability to assess article author purpose?

H3: Sources of news information preferred by students will impact their ability to assess article purpose.

4. Does the sources of news information preferred by students impact their ability to assess article type of fact or fiction?

H4: Sources of news information preferred by students will impact their ability to assess article fact or fiction.

RESEARCH METHODOLOGY

The course selected was an Introductory to Information Systems Course that covers Excel, Access, and MIS concepts. Fifty-eight students were provided a lecture along with an assignment to review seven different articles on their own as homework. During the lecture the students were engaged in a demonstration article before working on the assignment. Each of the articles followed the information literacy assessment evaluation model as depicted in the previous section. Tables 1 and 2 illustrate the gender, grade level, and the preferred sources of news by students.

Table 1. Gender and Grade Level Demographics

	Male	Female	Freshman	Sophomore	Junior	Senior
n	38	20	7	39	11	1
Percent	65.5%	34.5%	12.1%	67.2%	19.0%	1.7%

Table 2. Sources of News Information Preferred by Students

Preferred Web News Source	Count	Percent
1. Major News Source National / Local (WSJ, NYT, LA Times, etc)	15	25.9
2. Facebook	14	24.1
3. Commercial News Source (CNN, Yahoo, MSNBC, HuffPost, Bloomberg)	24	41.4
4. Specialty News Source (ESPN, Foreign)	2	3.4
5. None Specified	3	5.2
Total	58	100.0

Table 2 shows the preferred news sources by the students, which indicates 24% of the students get their news from Facebook and 41% get their news from commercial news sources. These results are fairly consistent with many studies about the millennial generation (statista.com, Desilver).

After the students submitted their responses, ANOVA tests and comparison of the means were conducted to test the hypotheses. Table 5 shows the Levene tests for homogeneity of variances that indicates only the author variable had equal variances. The other three variables had unequal variances, thus the Games-Howell test was run for the comparison of the means. The results indicate that all four hypotheses showed no statistical significance in the difference of the means, which indicates the news source preferred by the students does not impact their ability to assess overall article credibility. The statistical significance had a p-value between .343 and 1.00 and the difference between the means was between -.228 to .228.

Further statistical analysis was completed to understand how well students assessed the seven different articles. The mean number of incorrect evaluations (the number wrong) for each student and each article was calculated and the means were compared. One significant difference in the number students had wrong was related to article number 5 as shown in Table 3. Even though this was not the most difficult article assigned to assess, the students missed that the author type was false, the author only referenced themselves, it had a misleading author purpose, and a confounding article type. It is not that students did poorly at assessing all of the articles but instead they did not catch the issues of article number 5. Table 6 shows the comparison of the means tests to illustrate the statistical significance of article 5 versus the other articles.

Table 3. Descriptive Statistics about the 7 Articles and the Number Students had Wrong

Article	1	2	3	4	5	6	7	Total
n	58	58	56	59	60	58	58	407
Mean	1.155	1.552	1.607	1.051	2.667	1.845	1.431	1.619
Standard Deviation	1.005	1.187	.928	1.024	1.084	.895	.861	1.116
Minimum	0	0	0	0	0	0	0	0
Maximum	4	4	4	4	5	4	4	5

Table 4. Descriptive Statistics Based on Each Preferred Web News Source

(Note: The sample size, n, is based on each of the 58 students answering questions about seven articles.)

Variable	Preferred News Source	n	Mean	Standard Deviation
Author: Reporter = 1 Expert = 2 Other = 3	1	104	1.865	.711
	2	99	1.848	.734
	3	169	1.728	.643
	4	14	1.929	.730
	5	21	1.810	.750
	Total	407	1.803	.692
Statement Validation / Cite Sources: Cite Yes = 1 No = 0	1	104	.471	.502
	2	99	.343	.477
	3	169	.379	.487
	4	14	.500	.519
	5	21	.571	.507
	Total	407	.408	.492
Purpose: Inform = 1 Persuade = 2 Explain = 3	1	104	1.337	.533
	2	99	1.323	.550
	3	169	1.249	.497
	4	14	1.214	.426
	5	21	1.381	.498
	Total	407	1.295	.517
Article Type: Fact = 1 Opinion = 2	1	104	1.337	.533
	2	99	1.323	.550
	3	169	1.249	.497
	4	14	1.214	.426
	5	21	1.381	.498
	Total	407	1.295	.517

Table 5. Test of Homogeneity of Variances for Each Variable

Variable	Levene Statistic	Significance
Author	0.363	.835
Statement Validation	2.777	.027
Purpose	2.186	.070
Article Type	3.326	.011

Table 6. Comparison of Number Wrong with Respect to Each Article

Title 1	Title 2	Mean Difference	Standard Error	Significance
1	2	-.397	.204	.458
	3	-.452	.181	.171
	4	.104	.188	.998
	5	-1.512	.192	.000***
	6	-.690	.177	.003**
	7	-.276	.174	.691
2	1	.397	.204	.458
	3	-.055	.199	1.000
	4	.502	.205	.191
	5	-1.115	.210	.000***
	6	-.293	.195	.743
	7	.122	.193	.996
3	1	.452	.181	.171
	2	.055	.199	1.000
	4	.557	.182	.043*
	5	-1.060	.187	.000***
	6	-.238	.171	.805
	7	.176	.168	.941
4	1	-.104	.188	.998
	2	-.501	.205	.191
	3	-.556	.182	.043*
	5	-1.616	.193	.000***
	6	-.794	.178	.000***
	7	-.380	.175	.317
5	1	1.512	.192	.000***
	2	1.115	.210	.000***
	3	1.060	.187	.000***
	4	1.616	.193	.000***
	6	.822	.183	.000***
	7	1.236	.180	.000***
6	1	.690	.177	.003**
	2	.293	.195	.743
	3	.238	.171	.805
	4	.794	.178	.000***
	5	-.822	.183	.000***
	7	.414	.163	.156
7	1	.276	.174	.691
	2	-.121	.193	.996
	3	-.176	.168	.941
	4	.380	.175	.317
	5	-1.236	.180	.000***
	6	-.414	.163	.156

*p < .05, **p < .01, ***p < .001

LIMITATIONS AND FUTURE RESEARCH

This project sought to determine how the current influx of information via the internet impacts the student's ability to accurately assess the validity of the information presented. It sought to determine what types of sources the students reported utilizing for news and factual information and then attempted to ascertain the impact on critical thinking.

There are some limitations of this study that should be addressed. First and foremost, this study should be replicated among other campuses throughout the US and world to ensure that the results are not regionally located. Second, further research should examine the exact differences between Facebook, Yahoo, and the other news organizations to see if there is any distinct differences in news presentation and more importantly acceptance of such information. Third, the question asked for this study was about what news sources students used but could additionally ask how often the source is read. Lastly, a different set of articles might produce different results based on their interest in the subject matter.

CONCLUSIONS

Brandt (1996) discussed the importance of evaluating the quality of research regardless of where it is found and the necessity of checking author credentials, possible bias, and purpose of published information. Omar & Mwitumbe (2014) determined that information competencies were not being taught and teaching these skills should be taught in academic departments outside the library. This study supports these suggestions since students did not catch false author credentials and a misleading purpose.

Information is presented to each person on a daily basis. In past years, there has been some sort of filtering system or rating of news sources but is not the case with the Internet. In these modern times, it is important for society to monitor how information is being processed, delivered, and most importantly received. This study sought to determine news sources preferred by students as well as their ability to analyze and assess articles available on the internet. The results found that news sources preferred by students did not influence their ability to assess the purpose, author type, article type, or references, yet students missed evaluating an article where an author had a false role and misleading purpose.

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