Demystifying disinformation: A survey on higher education students' ability to identify

fake news on Facebook

Mina Wilson

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California State University San Bernardino

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Dr. Stephen Bronack

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Abstract

Since the advent of web 2.0, social media has been the go-to of choice for most people to get connected, to read news and to obtain information. With the exponential growth of social media came the proliferation of fake news for various reasons, to "increase readership or disrupt the order in the society for political and commercial benefits" (Priyanga, et. al., 2021).

This research looks into the problem of fake news and looks into determining if students in higher education have the capability to identify fake news on Facebook. It aims to investigate if students in higher education are knowledgeable of processes in filtering fake news on Facebook (FB). A sample size of approximately 10 to 20 higher education students are targeted in a survey to find out which tools and skill set students use or find to be predominantly useful in identifying fake news. A questionnaire will be filled out on Google forms by the participants for this study to analyze if data proves that respondents are able to make the distinction between fake and real news, and exercise critical thinking skills in doing so. Respondents are expected to have a computer or mobile device, and connection to the internet in order to accomplish the survey. The participants will be anonymous but the questionnaire will ask demographic information, i.e., age, sex, race, religion, for use by the researcher as points of comparison. The questionnaire will have multiple choice questions, as responses to scenarios presented in essay format. The results should reflect and confirm or debunk the hypothesis that higher education students are very likely to employ skills and tools in identifying fake news, by utilizing critical thinking skills. and through refresher exercises provided before

the administration of the survey through newslit.org, get.checkology.org, and factitious.augamestudio.com.

Review of Related Literature

Fake news, as defined by Gaozhao (2021) is "an inaccurate or fictitious account of facts." The study recognizes the difficulty social media users have in distinguishing fake from real news and point to two reasons: lazy reasoning and motivated reasoning. It identifies flagging as a method of fact-checking and identify social media users' exposure to fake news via an experiment on Amazon's Mechanical Turk where three groups of participants were exposed to different treatments–fact checker flags group, crowdsourced flags group, and news materials only group. It finds that fact-checking flags help in identifying fake news and that regardless of the source of the fact-checking flags, there are no differences in perception by the participants.

Khairunissa (2020), in his study of University Students' ability in evaluating fake news on social media, broke down fake news into three categories: fake news made on purpose with an aim of affecting opinions, fake news as sarcasm, and fake news posing as facts. The study uses qualitative research methods with a descriptive approach and seeks to answer if digital native students have the ability to rate social media news. It shows that real information and news were easily identifiable versus fake news. The researcher noted that although participants have self-taught skills in identifying fake news as digital natives, there still remains a probability for incorrectly identifying fake news to be real in the absence of critical judgment based on reliability of sources.

The study strongly recommends that academic institutions and libraries should provide information literacy training, critical thinking assessments, and identifying "reliable reference sources" (Khairunissa, 2020).

Gimpel, et. al. (2021) identifies fake news as having two characteristics: inauthenticity (false information still being recirculated in spite of knowing it to be false) and deception (presenting false information as truth). Motivations for those spreading fake news vary depending on the originator–for entertainment purposes, encouraging clickbaits with attention-catching interface to gain ad revenues, and the motivation to influence others' social or political views and opinions on public personalities. This study believes that Social Norms (SNs) and its two classifications of Injunctive SNs and Descriptive SNs may help direct people's online behavior when faced with particular situations, and further, poses the research question: "Can injunctive and descriptive social norm messages provided as part of a social media user interface improve social media users' fake news reporting behavior?" The study finds that an injunctive SN message raises the chances of reporting fake news (users acknowledge a message saying they understand that they should report inappropriate content to improve quality). Descriptive SN treatments saw fake news reporting increase as well, but not as much as injunctive SNs.

Studies on the field of detecting fake news have recently emerged in the wake of global events such as Covid pandemic, the 2020 US presidential election, and the war in Ukraine. Zhao and Zafarani (2020) analyzed some behavioral and cognitive theories on how to stage fake news "detection and intervention, which, to date, have been rarely available" (Miller, et. al. 2017, as cited by Zhao and Zafarani, 2020). Bakir and McStay

(2017) found that the fake news mainly involved the "economics of emotion: specifically, how emotions are leveraged to generate attention and viewing time, which converts to advertising revenue." The study evaluated possible solutions to this problem by 1. Elevating quality of "related articles" in news feed (facebook), 2. Third-party verification by fact-checking organizations and stronger technical detection of misinformation, 3. Indicating warning labels on stories flagged as false and easier user reporting of fake news, 4. Listening to advice from the News industry, and 5. Disrupting fake news economics by removing sites pretending to be legitimate news outfits. Jang and Kim (2018), studied third-person effects (others are more susceptible to effects of fake news than me) of fake news and found that that same effect reacts favorably towards media literacy efforts to suppress damage caused by fake news, coming from their belief that "if individuals perceive fake news to have effects on others, educating others is more reasonable than regulating everyone's freedom of speech." Similarly, people often fall victim to the Kruger-Dunning effect, and can "overestimate their abilities and their knowledge of a subject, leading to failed outcomes or overall incompetency" (Weiss, et. al., 2020). Pennycook, et. al. (2020) proposes fact-checking disputed stories and flagging the same by including warnings on its headlines. Collins, et. al. (2021) stated that identifying and flagging fake news is a herculean task but is possible with the aid of methods such as Natural Language Processing technique, Machine learning approach [Hybrid model, Experts or professionals facts-checker approach, crowdsourced (wisdom of the crowds) approach, machine learning approach (through Naive Bayes), AI tools such as Click Through Rates (CTR), and Gradient Boosted Decision Trees (GBDT)], Hybrid technique, Expert crowdsource approach, Human-Machine approach,

Graph-based method, Deep learning approach, and Recommended system approach. Studies by Wei, et. al. (2022) have found that crowdsourcing is the most efficacious model in tamping down fake news, complemented with machine learning algorithms via the CAND model (Crowd powered false news detection), using datasets from Sina Weibo and Twitter. It is found that the study's combination approach performs better than other similar methods, and stands robust from trolls, bots and users displaying malicious intent. Finally, the News Literacy Project is an organization founded by Pulitzer winner Alan Miller in 2008. It provides free learning opportunities virtually for learners across all ages to "identify credible information, seek out reliable sources, and know what to trust, what to dismiss and what to debunk" through short, digestible lessons followed by knowledge assessments on Checkology. (Mecklin, 2021.)

Methods

The study is to be conducted using a survey of 10-20 higher education students to determine the tools and skills they use in determining fake news on facebook. For purposes of expediency, students of ETEC5430 Action Research in Dr. Bronack's class will be the respondents. To better analyze the data to be collected from this study, the survey will be conducted online using Google Forms. The survey/questionnaire is attached to this document under Appendix A. Prior to the administration of the survey/questionnaire, the respondents will be asked to perform a series of exercises on get.checkology.org, as an aid and refresher.

Results

Upon completion of the survey, the results should automatically be aggregated by Google forms. The researcher intends to analyze the data and come up with tables to present the results once it becomes available. It is expected that with the demographic of the respondents of this study, the results should either align with or debunk the hypotheses that higher education students are more likely to distinguish fake from real news with the use of critical thinking skills developed through years of education and experience.

Discussion

The ability to access information at the snap of a finger on the internet is a marvel that humankind is very lucky to have at its disposal. With the prevalence of disinformation on social media, especially Facebook, this study aims to assess whether higher education students have the ability to identify fake news from real news. This researcher chose Facebook as the platform because it is considered the most ubiquitous of all the social media available and does not have character limitations when it comes to posting content. Since this research is a work in progress, it can only be assumed that the results of the survey will not validate the hypothesis that higher education students are capable of filtering fake news on FB, as according to studies

already conducted on the subject, fake news identification is very nuanced and interpretation can vary based on the demographics of the participants.

A similar study was conducted at Indian River State College (IRSC), where a program was implemented to teach students about news literacy to aid in detecting fake news by way of a module teaching about the information cycle, locating news sources, and evaluating news articles (Auberry, 2018). It states that skills in fake news detection are matters that develop over time, through constant practice and exercise, and regardless of how proficient college students are in navigating the world wide web, it is still not easy to detect misinformation.

Another similar study conducted by Weiss, et. al (2020) at California State University, Northridge, CA (CSUN) examined faculty members' perceptions of fake news, how they define it and how they make the distinction. It was found that the faculty respondents have different perceptions and understandings about what fake news is. The researchers concluded that this discovery is alarming because of the potential harm that non-exercise of critical thinking skills may cause to students and strongly recommends finding new approaches to solve this potential problem.

These results bring to mind the case study of Fake News and the Economy of Emotions by Bakir and McStay (2017), which emphasized that fake news problem has a lot to do with the "economics of emotion: and portends that the use of fake news to rise emotions or downplay feelings is an even greater problem than just fake news itself,

especially if recipients of fake news reside in echo chambers where they have limited

opportunities to interact with others outside of their own belief systems."

Therefore, with information that is already available through previous studies, it is

safe to say that, unless the [future] participants of this survey are in constant hands-on

practice of news literacy and its components, it is almost impossible for higher

education students to be 100 percent able to detect fake news on facebook, or on all

other social media platforms for that matter. Because of overexposure to information

from all forms of media, there needs to be emphasis on developing student

competencies on critical thinking that is both tech-centric and yet still considers the

human/emotional side of information processing (Petrucco and Agostini, 2020).

This study is limited by the fact that the results from the survey are not available

at the time of presentation, and that the researcher is constrained by time to develop an

ideal study where a course is prepared with exercises in developing critical thinking

skills prior to the delivery of the survey to put the hypothesis to a stronger test.

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News Literacy Project

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Appendix A

Link to Survey/Questionnaire

https://docs.google.com/document/d/1teEPJCboPHSZbkG3UHjQB6AupIHzpXwDzqU8J

kWGyRU/edit?usp=sharing

Appendix B

Link to practice exercises

https://get.checkology.org/lesson/misinformation/