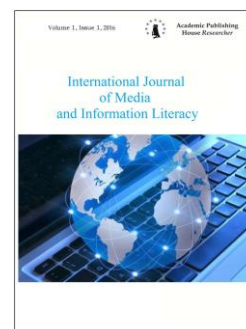


Copyright © 2018 by Academic Publishing House Researcher s.r.o.



Published in the Slovak Republic
International Journal of Media and Information Literacy
Has been issued since 2016.
E-ISSN: 2500-106X
2018, 3(2): 40-52

DOI: 10.13187/ijmil.2018.2.40
www.ejournal46.com



Perspectives from Algeria and the United States: Media and News Literacy Perceptions and Practices of Pre-service Teachers

Slimane Aboulkacem ^{a, *}, Lory E. Haas ^a, Abigail R. Winard ^a

^a Sam Houston State University, USA

Abstract

Part of being a 21st century citizen is experiencing the polarization and the divisiveness of the world, especially across digital social spaces. We live in a new media environment that is personalized for everyone. Additionally, today's media life is characterized by the speed of information production, consumption, as well as and often absence of trustful information sources. Information is available in unprecedented amounts at the touch of a fingertip and finds us through an armada of digital services. Hence, the purpose of this research is to explore the perceptions and practices of 268 pre-service teachers from Algeria and the USA. Responses to four open-ended questions, which were part of a mixed methods survey, were analyzed for this study. These questions were posed to investigate pre-service teachers' views of today's news, its sources, and how they proceed into verifying and sharing information. The findings revealed that students indicate they verify information but did not share how they verify sources other than frequent use of Google search engine. Moreover, friends, family members, and Facebook comments were found to potentially sway the pre-teachers' opinions or even sometimes determine their news believability.

Keywords: social media, pre-service teachers, news literacy, practices, perceptions, news verifiability.

1. Introduction

Part of being a 21st century citizen is experiencing the polarization and digital divisiveness manifested in our world. Today, more than ever before, we live in a fluid media age that is characterized by the speed of information production and share (Lankshear, Knobel, 2004), and the lack of information verifiability (Hobbs, 2006; Silverblatt, 2008). Information is available in unprecedented amounts and at the touch of a fingertip. Most of today's information, especially news, finds us through an armada of digital services. The problem is twofold: a burst of information production and a vast spread of means of consumption. For instance, and not long ago, news organizations worked hard to gatekeep the news and investigate the facts. Today, news does not lack; it is everywhere, and the individual is the journalist and the news gatekeeper. Additionally, information overload and the multitude of sources have made it a tedious task to make an informed citizen that can decipher media works (Potter, 2005). Being media literate is therefore the responsibility of every individual.

Media and news literacy is a field of media studies that is growing with the overgrowth of technology and means of media production. From a research standpoint, researchers from

* Corresponding author
E-mail addresses: sxa066@shsu.edu (S. Aboulkacem)

different fields of humanities, health, and social sciences are more and more interested in what people do with information and how they compose their messages (Hobbs, 2006). Studying how people interact with information could be approached from many disciplines. In this article, we will present our findings on how college students, mainly pre-service teachers, interact with news across social media from a sociocultural aspect using Social Impact Theory (Latané, 1981). Additionally, we will sustain the theoretical explanation with software studies, mainly cultural software (Manovich, 2013). As technology and humans interrelate, we are interested not only in examining the impact of media on individuals, but more in how humans interact with technology. How they socialize with software; how they access, seek, and verify information are some of the key points we seek to elaborate. Therefore, our purpose in this study was to examine potential influences in how pre-service teachers from Algeria and the United States access and interpret news across informal media. In addition, we also explored their perceptions on how news is shared through various social media. We will sustain our findings with some participants' quotes from the qualitative survey.

2. Materials and methods

The purposes of this qualitative study were to survey pre-service teachers' use of media to access news and information in Algeria and the United States. We explored perceptions and practices as to how information is accessed and shared across informal/social media according to pre-service teachers from both countries. In addition, we explored how pre-service teachers verify the content they browse using their digital devices. A final goal in our study was to determine if the perceptions and practices of future teachers support the need for implementing news media literacy in educational curriculums.

We used convenience sampling scheme for this study. The participants in this study were pre-service teachers attending a university in southeast Texas, and pre-service teachers attending a university in the north of Algeria. Both populations were enrolled in preparatory courses for teaching in public schools upon graduation. The participation was voluntary and the professors in charge of the courses administered the survey face to face. The U.S population ($N = 124$) had a mixture of White ($n = 75$), Hispanic ($n = 21$), Black African American ($n = 13$), Asian ($n = 9$), and Biracial ($n = 6$). The Algerian population ($N = 144$) was homogeneous and classified as Mediterranean. The majority of participants in this study were females, but gender was not a focal variable in our analysis.

3. Discussion

Understanding Information and Media Literacy

An informative society can be measured by how fast a piece of information could travel. However, with information traveling fast come problems of trust and believability. Comparing news spread in the past with today's shows how fast news travels. For instance, while news of U.S., president, Abraham Lincoln, assassination in 1865 needed twelve complete days to reach Europe (Rantanen, 2009), the 2011 Arab revolutions news came in live through major media companies and social networks (Couldry, 2012). As to news self-curation, people usually prefer online news over TV as it is instant and easily accessible. For instance, ABC world news executive John Banner considered their TV audience as slender compared with their online customers (Lotz, 2009).

Fast news is partially fueled by the technological excitement that people tend to thirst for trying new apps and the sharing of information (picture, video, text) with least to no critical thinking. Critical thinking should be applied not only to the information source, content, and format, but also to the medium itself. As Stoddard posited that accessing information requires one to know about "the expertise or viewpoints of people contributing to the information [we] are accessing . . . the design of applications, databases, search algorithms, and web pages" (Stoddard, 2014: 1-2). What we experience today in terms of media manifestation and individual's interaction with media technologies is the focus of media literacy. Before we dive into dissecting the concept of media literacy, we will first try to define information, as it is the center of today's world initiatives, leading businesses, and new startups.

Early world industrial inventions and the industrial revolution have created a need for information management and control. In other words, it created a need for governments to restore their control power over politics and economy, including media economy. Facebook, Google, and

Amazon, the top giant companies in the world are mainly information control companies. This information monopoly, according to James Beninger (1986), as he wrote in his masterpiece, *The Control Revolution: The Technological and Economic Origins of the Information Society*, is important to the 21st century the same way the industrial revolution was to the previous ones. Beninger conceptualized the world as a one gigantic programmable device; hence, its information requires structure and control. He classified governments or companies of information processing as agents exercising a “purposive influence toward a predetermined goal” (Beninger, 1986: 7). In other words, it is an attempt to program life through the programming of information. As it relates to our topic of news dissemination and interpretation, *The Control Revolution* provided many details about information bureaucracy as a form of control and suggested the dichotomy of information processing and preprocessing.

According to Beninger (Beninger, 1986), information could be processed (as in processing) by ameliorating the production/ dissemination machines (such as smartphones); or else it could be cut/ignored to absorb the chore of processing it (as in preprocessing). Both ways eventually lead to information control. Before Beninger, communication scholar Claude Shannon suggested the mathematical model of communication, in which he disregarded meaning and reduced the act of communication to signs and measurable bits to efficiently process and define it. In 1943, Shannon had already thought of designing a machine that can think for itself, before the electronic computer was even created (Gleick, 2011). His machine was meant to reduce any act of communication into meaningless measurable bits so it can automatically process information. He thought of machine learning to increase information control and speed its processing.

In this paper, we adapt the same concepts to the current news ecology, its production and consumption. We consider news cut or overload as a way of information preprocessing. We consider the underlying algorithms as ways of information processing. Whenever one sees the red band of breaking news on TV, a trending topic on Facebook, or else, the question to ask is, what else is there that is not being told, covered, or declared? An example of information preprocessing could be seen in the Vietnam and Gulf War. Public opinion in the U.S. denied the military intervention in Vietnam as a result of branded media companies projecting war scenes and anti-war protests across the country. In 1991, the Gulf War was not extensively covered, and the government restricted media exposure to their war meetings (Ryan, Wentworth, 1999). The information preprocessing and obscurity also characterizes the current U.S., and North Korea; U.S., and Iran nuclear negotiations; or the killing of the Saudi Journalist in Turkey, Jamal Khashoggi. The ban of information access to Facebook during the Arab Spring or the closing of Al Jazeera office in Algeria are also a form of information preprocessing (for more examples, see Facebook transparency report at <https://transparency.facebook.com/content-restrictions>). Additionally, it is remarkable how some media companies have turned to use social media to spread their news and increase their audience, as those platforms operate on carefully crafted algorithms. For example, Al Jazeera Plus or AJ+ has found of social media a neat way to reach its public months after its office closure in the U.S. Today’s confusion and overwhelm of information, also known as information saturation or fatigue, is one of the signs of information control. In summary, information preprocessing/processing, i.e., information control, lies in the secret sauce of algorithm. It is math control which transcends to computer control, and therefore, free access to information may be a myth. So what is information? What is algorithmic information control? And how does that relate to social media news and information consumption?

Access to Information

Before we attempt to define information, we want to clarify the importance of media literacy regarding information access, including news. There are multiple positions and arguments as to why media literacy is key to development, but the following definition of UNESCO subsumes the main idea:

The ultimate goal of media and information literacy (MIL) is to empower people to exercise their universal rights and fundamental freedoms, such as freedom of opinion and expression, as well as to seek, impart and receive information, taking advantage of emerging opportunities in the most effective, inclusive, ethical and efficient manner for the benefit of all individuals (UNESCO, 2013: 31).

Information could be defined in a multitude of ways and has been the center of focus of research as we live in a constantly changing environment. We have selected the one advanced by

Claude Shannon, as mentioned in Gleik, that “information is uncertainty, surprise, difficulty, and entropy . . . if only one message is possible, there is no uncertainty and thus no information (Gleik, 2011: 219).” Of note, the two dimensions of this definition are important to understand the news media ecology in which we live today. First, information itself needs to be more than one message for it to be considered informative. Second, the message composition and reality representation are diverse. Therefore, there are layers of meaning within simple acts of information communication. In addition, the medium plays a key role in communication (for details, see McLuhan, 1967).

Today’s media are controlled and managed with carefully designed machines that think for and adapt to the user—quite similar to McLuhan’s (1964) media as an extension of ourselves. In the 21st century terms, machine learning devices extend our senses and thoughts. Media literacy as related to information brings about skillful citizens in dissecting information across the three layers of information. It is a tedious endeavor to sift the billions of bites that travel in and out of one’s mobile device(s) daily. This, as mentioned earlier, could be a form of governmental and/or corporate control of the masses. Information itself is uncertainty, let alone abundant information coming to us from a sheer number of sources. Apart from information flow, algorithm governability is another dimension of information control that has yielded many problems such as fake news and disinformation.

Socialization and Social Impact Theory in Light of Software Studies

We will attempt to establish a connection among the three areas of media and social studies, social impact theory, the process of cultural socialization, and software studies. This brief description is intended to help us understand the informal media ecologies and explain popular attitudes towards fast news. This is by no means a thorough review of the social theories or software theory. Humans are not born in a vacuum. Humans are born into a set of cultural transmissions via implicit and explicit exposure. As we live, communicate, and interact we produce and use signs. Signs enforcement is known as the socialization process and the enforcers of the cultural signs (such as parents or peers) are the socialization agents (Ryan, Wentworth, 1999).

The Social Impact Theory (Latané, 1981) provides a conceptualization of the socialization agents. The main idea of the social impact theory is that individuals are likely to respond to social influence, i.e., interact or make an act of socialization, under any of these three conditions: strength, immediacy, and number (Latané, 1981). Latané sees *strength* in the importance of the influencing group, which could be a family, a group of friends, a community, etc. *Immediacy* measures the closeness there is between the group and the individual at the time of influence (space and time), and *number* refers to the size of the influencing group. Therefore, every individual has his/her source of influence or socialization. As this theory was incepted when there was no social media, we saw the necessity of merging it with software studies to better understand the media fabric of the 21st century. We theorize that humans do not only socialize with humans, but also with machines/ software. Studies pertaining into the work of algorithms, click behavior, individual’s fluid movement across social media help to explain the relationship between humans and software. It is a two-way relationship. Humans socialize with software and software extends human thoughts and senses, as mentioned earlier.

Deeply rooted in software socialization is the notion of self-objects, which happens when we mediate ourselves through customized and personalized digital devices. We are self-objects when we objectify our true selves in sociable technology machines like robots and mobile phones. Human-machine relationality is similar to self-objects in the sense that machines could become extensions of ourselves or become just us, eventually. In *Life After New Media*, Kember and Zylinska stated that “With ambient computing, the (now touchy feely) machine is not just a human friend—it is also our double” (Kember, Zylinska, 2015: 112). They further claimed that technology socialization can prototype us, by positing that “self-reinforcement via technology whereby objects and technological artifacts are being designed to reinforce a sense of self-identity by projecting one’s memories, achievements, and so on into the domestic environment” (Kember, Zylinska, 2015: 113). Regarding news and the use of social media to share news, the authors claimed that individuals need a sense of “self-reinforcement in which the human self is regarded as paranoid and insecure, as in which reinforcement answers a supposedly basic human need for security, integrity, and autonomy” (Kember, Zylinska, 2015: 110).

The notion of self-objects can explain ambient technology such as Alexa with Amazon or Siri in iPhone. The naming of a portable device starts the process of self-objectification. In the case of

Alexa or any mobile phone, once it becomes a new member, it drops the identity of a machine and adopts that of a living individual as part one's home and family. Our phones have become part of us and we feel our phones in return as we communicate with them. How does it feel to see the phone battery drained? How does it feel when we update our status on social media and receive no likes for the day? Human-machine relationality, as mentioned above, can perfectly explain why many people are constantly touching their phones looking for something, which is a great example of how humans depend on machines as they enter the process of socialization, "I affect you and you affect me" (Kember, Zylinska, 2015: 113).

Manovich (Manovich, 2013) classified cultural software as programmed machines or services used to create and/ or share knowledge, and those used to communicate and create with people. We, hence, stand on the shoulders of Social Impact Theory, the concept of socialization, and Software Theory in order to help understand the spread of information, fast news, alternative facts, and how pre-service teachers feel about the news ecology across social media.

Algorithmic Information Control

As an example of social media algorithm, Facebook newsroom update reads, "The goal of News Feed is to show you the stories that matter most to you. To do this, we use ranking to order stories based on how interesting we believe they are to you" (Frantz, 2015). Facebook algorithms ensure that the users receive customized news—news that appeals to them and serves the best to their interests. The tools we use do not only provide us with information, but also shape the way we behave and perceive the world (Kember, Zylinska, 2015; Stoddard, 2014). To civically participate in a modern society requires the ability to independently select and assess the credibility of news we consume (Silverblatt, 2008). Like Beninger' (Beninger, 1986) information control notion, Alang (Alang, 2016) considers the algorithms to be the 21st century organizing mechanisms. He claims they are everywhere and secretly governing our lives, including every bit of information we consume. Algorithms are the secret sauce of information domination and that explains why they are the most expensive intellectual property of the tech giants such as Google, Facebook, and Amazon (Alang, 2016).

Like software, algorithms are composed, and therefore, they reflect a purpose and an ideology. They are not neutral and they have limitations and flaws. Because news and information rains from a multitude of sources, its verification depends on individuals and every individual has his/her way of approaching believability. In a pilot study we conducted at a university in Southwest Texas, quite a few students told us if a news is trending, it should be true and verified. This is quite accurate about Facebook trending news verification, but how? We used to think topics trend on Facebook because they are verified by algorithms or many users have interacted with them. This was the case until May 2016, after various media blew the whistle at Facebook's news policy, the company clarified its policy in a memo posted on Facebook newsroom. The memo explained the cycle of news curation and verification. The process starts with a careful algorithmic curation; then a team of editors is charged with refining the trending list, make sure the topics are reported by select major news organizations (CNN, Fox News, The New York Times, and others), write descriptions, and categorize the topics, among other tasks (Osofsky, 2016). The topics are then placed on an algorithmic train that will then reach individuals based on many factors such as their click behavior, location, etc.

The pervasiveness of trending news is nefarious as it is biased and determines what Facebook users — 167 million in the U.S alone — read at a particular time of the day (Nunez, 2016). Many think algorithms are rigorous and bias free, as they are mathematical formulas. They are not. Facebook claims itself as a platform of free speech and social connectivity, while secretly works as a controlling agency with carefully designed algorithms and a selective editorial team (Alang, 2016). Cathy O'Neil (O'Neil, 2016), in her book *Weapons of Math Destruction*, spoke about the math intervention and control revolution. She extensively wrote about mathematical models and how they govern teachers' performance, policing, job employment, university rankings, online marketing, justice system, and other life affairs. It is everywhere. She claimed that they are flawed and unequal. In her last chapter, *the targeted citizen*, she spoke about data management and control as exercised by big data companies and how that could influence not only the opinion of people together but also send individually targeted information select publics.

Media Ecology from the U.S. to North Africa Region

Walker (Walker, 2015) mentioned that the world produces 2.5 quintillion bytes of data per

day, and most of it spreads through the hands of people using social media. This bulk of information, as we mentioned before, is generated and regulated by machines that meticulously learn the human behavior. The amount of information surpasses any human capacity to contain, comprehend, or keep up with current events. This motivated some tech giants, such as Facebook and Google to think about machine “trust identifiers,” an artificial intelligence technology, to help people sift through daily junk (Carbone, 2017). Facebook and Google, according to Dardeli, “are the floods of information . . . Designing better algorithms on these platforms will not prevent us from drowning. And there will always be nefarious persons, organizations, or governments that will try to, and may successfully, out-Facebook Facebook or over-Google Google” (Dardeli, 2018). Through technology, we have come together to consent and disclose our information and display our lives online; hence, left behind permanent footprints. This has given a reverse power to giant techs to control what we see, search, and sometimes, believe.

The 21st century has ushered in a wealth of knowledge to the world. A UNESCO Report (2016) identified a lack of national strategy and policy with regards to media and information literacy in the MENA region. It seems there is no unified structure or consensus on applying MIL strategies. There are examples of Arab countries which are actively creating and encouraging MIL workshops or trainings. For example, Abu-Fadil (Abu-Fadil, 2016) discussed the Media and Digital Literacy Academy of Beirut (MDLAB), in Lebanon, and how it provides media and digital literacy trainings and classes in Arabic. Grizzle (Grizzle, 2016) explained how UNESCO and the University of Beirut have come together to provide MIL education of a Massive Open Online Course (MOOC) in the language of Arabic. These examples highlight some instances of countries promoting MIL workshops and trainings, but there is still a missing component in the region. Grizzle stated, “There is no country in the Arab States Region with a national policy on MIL” (Grizzle, 2016: 28). This makes us ponder, what are the reasons for this lack of national policy in the region?

In Algeria, Boujemma (Boujemma, 2016) addressed the historical illiteracy challenges due to French colonialism, which took many years to undue and promote a literate society. This history can help explain why Algerian society and educational system is lagging behind in MIL strategies and policies. Boujemma (Boujemma, 2016) described the progress and changes in the Algerian school system since 1962, and further explained how there is continuing digitalization in the classroom with smart boards and computers despite a prevalence of low quality schools but did not mention the use of MIL in the curriculum or educational system. This pushes us to ask another question, when will MIL policies catch up with Algerian society and the educational curriculum?

In a Pew report on social media use, more than three quarters of Americans reported accessing news using social media (Mitchell et al., 2016). Of notice, 64% of social media users mostly access news on Facebook (Gottfried, Shearer, 2016). In the same report, Instagrammers (63%) and Facebookers (62%) said that news finds them while browsing the content; however, social media websites such as Reddit, Twitter, and LinkedIn are on the rise regarding news dissemination and consumption. News trust is of paramount importance when it comes to consumption.

Mitchell (Mitchell, 2016) found news consumers in the U.S. to have equal trust between news from branded news organization and news from their friends or relatives. Despite the high numbers of online news seekers, only 4% of Americans seem to trust news on social media (Fletcher et al., 2014; Mitchell, 2016). We find it important to note that the current means of data collection and research—surveys, interviews, big data analysis—make it hard to prove trust levels of the participants, because trust is the result of reasoning, cognition, and feelings. It is another issue to prove which element drives trust of news. Additionally, the way information circulates and piles up is unprecedentedly fast.

Media Literacy as a concept

Media literacy is a big concept with multiple underlying literacies and definitions including news, computer, privacy, peace, and film to name a few, which makes it an open field for more additions and definitions (Mendoza, 2007). In this article we emphasized the fact that media literacy aims at promoting the citizen’s power of knowing the media workouts. The ubiquity of media means of consumption and tools of production stand as one of the main agents of social socialization. Many of us socialize with a tool, a device, a program, a quest, a show, or else of media means and categories. It feels as if with media, everyone has his/her own software socializer. We posited that software is authored, therefore, incomplete. With that said, information processing

and preprocessing, to use James Beninger's (Beninger, 1986) terms, stood as our main lens through which we looked at the findings. Many students mentioned verifying information, but none mentioned how algorithms preprocess and recommend information. Many pre-service teachers from the US or Algeria stated that they consult reliable sources, verify the sources, and Google information if confused. They seem not to know that Google has monopoly over our search hits, what ranks first, and what gets read at a particular point in time. This is performed and done using its secret agents of algorithms, and many students prefer the algorithms to perform the task for them (Rieh, Hilligoss, 2008). The same math formulas supply news to us on Facebook and do the initial information filtering for us. Some students have reported that news hits them without their intent to seek it.

Aboulkacem and Haas (Aboulkacem, Haas, 2018) found that students get fatigued and overwhelmed with information; news reliability is not their priority, and if they verify news, they do it superficially. This is alarming as today's teachers determine tomorrow's leaders. Also noteworthy is how friends, family members, and Facebook comments potentially sway the pre-teachers' opinions or determine their news believability. Social Impact Theory (Latané, 1981) was used to study how software, family and friends could interchangeably represent Strength, Immediacy, and Number. Merging Social Impact Theory with Software Studies, we posit that information is unprecedentedly governed and processed to meaningfully inform or mislead the public. Do we really have freedom of expression and access of information despite the advancement of the means of media access and production? We would like to close with a dilemma exposed by a few U.S., pre-service teachers and we categorized it as information saturation syndrome. A female student said, "When news is shared through social media, you never know what is true." When our access to information is governed by software scripts, you never know how complete or lacking is the information accessed. As we remarked, the MENA region lags behind many countries such as the U.S., Canada, Australia and else in media education. Media literacy, we posit, needs to be nationally acknowledged and citizens should have the absolute right to understand the media workouts and know how to code and decode media messages, especially in totalitarian countries.

4. Results

Study Context and Purpose

The purposes of this qualitative study were to survey pre-service teachers' use of media to access news and information in Algeria and the United States. We explored perceptions and practices as to how information is accessed and shared across informal/social media according to pre-service teachers from both countries. In addition, we explored how pre-service teachers verify the content they browse using their digital devices. A final goal in our study was to determine if the perceptions and practices of future teachers support the need for implementing news media literacy in educational curriculums.

We used convenience sampling scheme for this study. The participants in this study were pre-service teachers attending a university in southeast Texas, and pre-service teachers attending a university in the north of Algeria. Both populations were enrolled in preparatory courses for teaching in public schools upon graduation. The participation was voluntary and the professors in charge of the courses administered the survey face to face. The U.S population ($N = 124$) had a mixture of White ($n = 75$), Hispanic ($n = 21$), Black African American ($n = 13$), Asian ($n = 9$), and Biracial ($n = 6$). The Algerian population ($N = 144$) was homogeneous and classified as Mediterranean. The majority of participants in this study were females, but gender was not a focal variable in our analysis.

Data Analysis and Presentation

Data were collected as part of a mixed method survey study using scale items and open-ended questions (see Aboulkacem & Haas, 2018). For this research, we have analyzed the qualitative part using QDA miner software and following the InVivo scheme, i.e., we display the results using the students' own words. The survey contained four open-ended questions and they mainly inquired about the participants' opinions towards how news is shared across social media, news verification, and their main news sources. The noticeable difference as we started processing and typing the data was that the Algerian participants provided fair amounts of answers compared to their American counterparts. Therefore, we had more data to analyze from the Algerian students and we do not claim the research results to be generalized out of their contextual interpretation.

Another important difference in participant responses was the depth and connections noted to support responses. The majority of Algerian participants responded in more formal academic terms and provided more specific examples to support their thoughts, whereas the American participants provided very simple responses which were stated in an informal/social tone with few supporting details. In Table 1 we display the ranked sources of news access by Algerians ($N= 144$) followed by American pre-service teachers ($N= 124$).

Table 1. Medium of News and Information Access of Algerian and American Pre-service Teachers

Algerian Pre-service Teachers		American Pre-service Teachers.	
<i>News Source</i>	<i>Frequency (N=144)</i>	<i>News Source</i>	<i>Frequency (N=124)</i>
TV	116	TV	151
Newspaper/Magazines	97	Facebook	49
Blogs/Websites	88	Blogs/Websites	29
Facebook	81	Newspaper/Magazines	24
Radio	27	Radio	11
Friends/Family	17	Twitter	11
Instagram	12	Friends/Family	5
Twitter	8	Snapchat	3
Snapchat	2	Instagram	1
Reddit	2	YouTube	1

The tables display frequencies of source access among pre-service teachers in Algeria and the U.S. Despite that the number of participants is not equal, we can still draw some observations about news media ecologies from both countries. Remarkably, Television remains the top choice for students to access news and information. Algerian students tend to have a higher readability of printed newspapers than their U.S counterparts. Additionally, it is noticeable that Algerians revert to their friends and family more so than pre-service teachers from Texas. Lastly, the use of social media does not vary much regarding the source, with Facebook being the most used; however, regarding frequency, American students tend to use Facebook for news curation less than the Algerian participants. Below we display the results of our coded data, its frequency, and provide exemplar quotations to support our findings. Figure I below displays the codes generated from the Algerian pre-service teachers' ($N= 144$) corpus. The sub codes are clustered under main themes/questions.




	Count	% Codes
 How do you verify News		
• Feeling sourcing	20	3.4%
• Generic news verification	84	14.4%
• I do not verify news	45	7.7%
 Opinion on Social Media		
• Emotional Reaction Eliciting	9	1.5%
• SM manipulates, rumors, propaganda, fake news	78	13.4%
• Social media does not lie about religious News	1	0.2%
• Social media is useful	64	11.0%
• Social media can be right or wrong	52	8.9%
• You need to be critical of SM	26	4.5%
 What is News?		
• It can be true/false	18	3.1%
• News Finds me	5	0.9%
• News informs	125	21.4%
• News is authored/subjective/opinionated	4	0.7%
• News needs critical thinking	8	1.4%
• User Generated News	2	0.3%

Fig. 1. Codes and Themes Identified for Algerian Participants

Frequency codes of Algerian pre-service teachers' responses analyzed using QDA Miner software.

We ran frequency codes to be able to understand the most important responses to the main questions on news definition, verification, and news opinions regarding social/informal media. As to news verification, most students contended to generic news verification. This code envelops any superficial verification with no details of how it is done or performed. When asked about news verification, a pre-service teacher said, "I would check different sources especially if it was a very sensitive and serious news, verify whether it is true or just rumors... I would read different sources on journals, electronic newspapers, etc." Another female teacher spoke to the verification of her news stating, "I check whether the same exact information can be found in different websites." Answers like these were highly frequent and less informative or structured as to how news is verified. The number of students who declared they do not verify news was relatively high, as these are supposed to be future leaders of the society.

News is pivotal to democracy and civic engagement. We have created a code, feeling sourcing, to describe the action of reverting to family and friends or public comments on social media to sense or feel the truth of the piece of news. As a process, it has less reasoning, but we found it recurrent in multiple answers. "See if people are talking about that news and see their opinions about it," a student attested.

With regard to social media and how the students felt about news and information traffic, 78 participants considered social media as a nest for propaganda, fake news, and rumors. A participant said, "National and international news are bias and manipulating. They provide a limited amount of a topic that people should focus on..." Another student remarked, "Social media in Algeria is manipulating, especially on the political side." To speak to rumors and fake news, this quote summarized the dilemma, "Nowadays, social media are wrongly used. People share false information. They spread rumors and inappropriate content without taking into consideration the user of the social media." A great number of students ($n = 64$) expressed their positive attitude towards social media being a great platform for information and news dissemination. Critical thinking is highly required as we connect to social media and sift through content. 26 students emphasized and alluded to the fact that information consumption should be supplied with critical thinking. A male student said, "Most of the time news are shared very quickly without any critical vision and source of checking. We, the Algerians, tend to accept everything and believe as true, however, very few people question the date and ask for explanation and evidence. Social media are

very biased. Stereotyping everything.” Concerning the students’ definition of news, most students ($n=125$) consider news to be informative about various events across the globe. However, interestingly enough, only four students considered news as authored and opinionated.

	Count	% Codes
 What is News?		
• Info about the current world	82	20.3%
• Violent and depressing	9	2.2%
• information distributed to people	15	3.7%
 How do you verify News		
• Comparing the sources or Google it	29	7.2%
• I do not verify news	42	10.4%
• Generic news verification	38	9.4%
• Feeling sourcing	13	3.2%
 Opinion on Social Media		
• incomplete and biased news	30	7.4%
• Social media is fast and Junk news	14	3.5%
• Promotes Hate speech	5	1.2%
• Social Media is opinionated and exaggerates news	64	15.8%
• Information Saturation Syndrom	11	2.7%
• SM requires critical thinking	22	5.4%
• great source of information	7	1.7%

Fig. 2. Codes and Themes Identified for American Participants

Frequency codes of American pre-service teachers’ responses analyzed using QDA Miner software.

When asked about their own definitions of news, American pre-service teachers mostly stated that news could travel across multiple media with a purpose to inform the public about current events, locally and internationally. However, despite the scarce amount of answers pertaining to the fact that news reports violence and causes depression, we deemed it necessary to highlight this finding. To support this, a female student said, “The news is depressing; mostly one sided.” As far as news verification, the participants answers were fairly split among generic news verification, comparing the sources or using Google search engine, and no news verification. As mentioned earlier, the American students did not supply much information for analysis; therefore, their answers of no news verification could be linked to the unwillingness to cooperate. Thirteen students stated the use of their feelings or the curation of other’s opinions and thoughts to evaluate news. A student said, “I would ask my friends or read through the comments, or even read further into it if I want to know.” Another female student said, “I bring it up in conversations or ask my parents about that subject.”

The last question asked about students’ impressions about news on social media. More than half the participants ($n = 64$) considered social media a platform of opinion sharing and news exaggeration. As an example, a female pre-service teacher contested, “I think the news within social media is used to fuel hate and fear and not spread the information.” Another teacher summed the problem, and said, “By the time it has circulated throughout social media, it has been twisted, retold, not fact-checked, and spreads by word of mouth, making it unreliable.” Also, as we have noticed the discourse of social media, a great many numbers of topics could be divisive and incite hate speech. A few students referred to the fact that the way news travels on social media promotes hate speech. A female pre-service teacher wrote that news is, “Very one sided, opinions escalate very quickly. There is no room for friendly discussions.”

Limitations

The study took place in two different universities with particular contexts and media cultures. Media consumption follows hard cultural and social values; therefore, it is important to consider the location of both data collection settings. Additionally, both populations were selected following

convenience sampling, so the study findings should be interpreted within the ecologies they happened and with caution not to randomly generalize them. Social media research changes frequently with the change of technology and the medium used for study; hence, this study stands as a snapshot from an ever-changing system that needs more studies for us to grasp the meanings of social media flow of information and how people react, sift through, and verify what they share and what is shared with them.

Implications

Students must learn to be critical consumers of news and information, but to do so they must learn and practice the necessary skills. Curriculum design and implementation may provide a solution to teach and instill basic news literacy skills in students. In addition, professional development for pre-service and in-service teachers to effectively teach news literacy is essential. The world is changing, as well as technology and education. It is a responsibility of schools and educators to cater to informal literacies and observe the changes in students' practices and attitudes as a result of technology advent. The UNESCO "Media and Information Literacy Curriculum for Teachers" (UNESCO, 2011) is a great initiative and start to inspire educators to build teachable units and open the dialogue with everyone who has access to social media.

Further, family media literacy is quite important. Reading and writing to children give them advantage at school and in life. We equally believe that media conversations and dialogues at home can bring about critical reflection and help promote wise use and consumption of information. Everybody is connected and algorithms decide what we see, read, and even feel. Algorithms can be flawed, incomplete, and can promote false information. The workings of software and technology can be a starter for family literacy education. None of us is safe. We all click, share, comment, and follow. Wise clicking is now a critical media literacy skill. Children and adults alike need to learn to pause before clicking, typing, publishing, posting, or marking a permanent digital footprint online. Those skills do not develop by default. They need to be consciously taught and promoted in school, homes, and third spaces.

5. Conclusion

News literacy is equal to consumer literacy. Bad nutrition may lead to devastation of health and various ailments. Bad information consumption affects the minds and spirits of people. News elicits emotions, divisiveness, sharing of news without verification, and the spread of rumors. Valid news helps citizens practice their civic duty. News literacy is not just a skill. It is a way of life and media education relevant to news and information assessment is a must and concerns people of different ages. Nobody is immune to the dangers of toxic and false information.

The pre-service teachers from our study showed a contradiction between what they felt about news being false and manipulated and their failure to show practical ways to verify news other than advising the public to be critical. Data showed conflicting opinions regarding social media and news. Some teachers agreed that social media is necessary and extremely helpful to access news about the world. Others considered it a tool of propaganda, fake news and social publicity.

To critically consume information is an individual responsibility and maybe one of the most needed skills that guarantee the safety of information consumption. Being critical is a skill that needs time, practice, reflection, and consistent evaluation. Critical thinking builds as a result of a long-term exercise of questioning and opening the dialogue with knowledgeable peers. Critical thinking requires flexibility of perception and openness to change as we progress and learn. News used to be gated. Today, every individual is his/her own gatekeeper but not everybody has the skills. Awareness about the dangers of gobbling raw information could be a dialogue starter or a learning journey kicker for many social media users. Social media is used by everybody and, despite the regulations, it generates both valid and incomplete information. It is in the hands of the users to decipher and sift through information as the regulation of every bit of information is impossible.

References

- Aboukacem, Haas, 2018 – Aboukacem, S., Haas, L. (2018). Perceptions, practices, and guiding principles of pre-service teachers in the quest for news and information across social media. *The Online Journal of New Horizons in Education*, 8(3), 129-139.
- Abu-Fadil et al, 2016 – Abu-Fadil, M., Torrent, J., Grizzle, A. (eds) (2016). *Opportunities for*

media and information literacy in the Middle East and North Africa. Sweden, Gothenburg: Nordicom, The International Clearinghouse on Children, Youth and Media.

Alang, 2016 – *Alang, N.* (2016). Life in the age of algorithms. *The New Republic*. 13.05.2016. [Electronic resource]. URL: <https://newrepublic.com/article/133472/life-age-algorithms>

Beniger, 1986 – *Beniger, J.R.* (1986). The control revolution. Cambridge, MA: Harvard University Press.

Boujemaa, 2016 – *Boujemaa, R.* (2016). An Algerian perspective. In: Abu-Fadil, M., Torrent, J., Grizzle, A. (eds). Opportunities for media and information literacy in the Middle East and North Africa. Sweden, Gothenburg: Nordicom, The International Clearinghouse on Children, Youth and Media.

Carbone, 2017 – *Carbone, C.* (2017). Facebook, Google, publishers fight fake news with 'trust indicators'. *Fox News*. 16.11.2017. [Electronic resource]. URL: <http://www.foxnews.com/tech/2017/11/16/facebook-google-publishers-fight-fake-news-with-trust-indicators.html>

Couldry, 2012 – *Couldry, N.* (2012). Media, society, world: Social theory and digital media practice. England CA: Polity Press.

Dardeli, 2018 – *Dardeli, A.* (2018). Facebook and google will not save us from fake news. we must save ourselves. 15.02.2018. *CIMA*. [Electronic resource]. URL: <https://www.cima.ned.org/blog/facebook-google-will-not-save-us-fake-news-must-save/>

Fletcher et al., 2015 – *Fletcher, R., Radcliffe, D., Levy, D., Nielsen, R., Newman, N.* (2015). Reuters Institute Digital News Report 2015.ews', Reuters Institute for the Study of Journalism [Fact sheet]. DOI: <http://dx.doi.org/10.2139/ssrn.2619576>

Frantz, 2015 – *Frantz, J.* (2015). Updated controls for news feed [*Facebook newsroom page*]. 1.06.2017. [Electronic resource]. URL: <https://newsroom.fb.com/news/2015/07/updated-controls-for-news-feed/>

Gleick, 2011 – *Gleick, J.* (2011). The information: A history, a theory, a flood. New York, NY: Pantheon Books

Gottfried, Shearer, 2016 – *Gottfried, J., & Shearer, E.* (2016). News use across social media platforms 2016 [Fact sheet]. [Electronic resource]. URL: <http://www.journalism.org/2016/05/26/news-use-across-social-media-platforms-2016/>

Grassegger, Krogerus, 2017 – *Grassegger, H., & Krogerus, M.* (2017). The data that turned the world upside down. *Motherboard*. 28.01.2017. [Electronic resource]. URL: https://motherboard.vice.com/en_us/article/mg9vvn/how-our-likes-helped-trump-win

Grizzle, 2016 – *Grizzle, A.* (2016). Preliminary comparative analysis of media and information literacy in the MENA region. In: Abu-Fadil, M., Torrent, J., Grizzle, A. (eds). Opportunities for media and information literacy in the Middle East and North Africa. Sweden, Gothenburg: Nordicom.

Hilligoss, Rieh, 2008 – *Hilligoss, B., Rieh, S.Y.* (2008). Developing a unifying framework of credibility assessment: Construct, heuristics, and interaction in context. *Information Processing & Management*, 44(4), 1467-1484.

Hobbs, 2006 – *Hobbs, R.* (2006). Multiple visions of multimedia literacy: emerging areas of synthesis. In: McKenna, M. et al. (eds). International Handbook of Literacy and Technology. Mahwah, NJ: Lawrence Erlbaum, 15-26.

Kember, Zylinska, 2015 – *Kember, S., Zylinska, J.* (2015). Life after New Media: Mediation as a Vital Process. Cambridge, MA: MIT Press.

Koltay, 2011 – *Koltay, T.* (2011). The media and the literacies: media literacy, information literacy, digital literacy. *Media, Culture & Society*, 33(2), 211-221.

Lankshear, Knobel, 2004 – *Lankshear, C., Knobel, M.* (2004). A handbook for teacher research: From design to implementation. Open University Press.

Latané, 1981 – *Latané, B.* (1981). The psychology of social impact, *American Psychologist*, 36, 343-356.

Lotz, 2009 – *Lotz, A.* (2009). Introduction. In: Lotz, A. (ed.). Beyond prime time. London: Routledge, 1-13.

Manovich, 2013 – *Manovich, L.* (2013). Software takes command. New York, NY: Bloomsbury.

McLuhan, 1964 – *McLuhan, M.* (1964). Understanding Media: The Extensions of Man. New York, NY: McGraw-Hil.

- McLuhan, 1967** – *McLuhan, M.* (1967). *The medium is the message*. New York, NY: McGraw-Hill.
- Mendoza, 2007** – *Mendoza, K.* (2007). *Media literacy and invitational rhetoric*. Media education lab working paper series. [Electronic resource]. URL: http://www.mediaeducationlab.com/sites/mediaeducationlab.com/files/302_WorkingPapers_Mendoza.pdf
- Mitchell et al., 2016** – *Mitchell, A., Gottfried, J., Barthel, M., Shearer, E.* (2016). *The modern news consumer* [Fact sheet]. [Electronic resource]. URL: <http://www.journalism.org/2016/07/07/the-modern-news-consumer/>
- Mitchell, 2016** – *Mitchell, A.* (2016). *Key findings on the traits and habits of the modern news consumer* [Fact sheet]. [Electronic resource]. URL: <http://www.pewresearch.org/fact-tank/2016/07/07/modern-news-consumer/>
- Nunez, 2016** – *Nunez, M.* (2016). *Former Facebook Workers: We Routinely Suppressed Conservative News*. *Gizmodo*. 9.05.2016. [Electronic resource]. URL: <https://gizmodo.com/former-facebook-workers-we-routinely-suppressed-conser-1775461006?rev=1462799465508>
- O'Neil, 2016** – *O'Neil, C.* (2016). *Weapons of math destruction: How big data increases inequality and threatens democracy*. New York, NY: Crown Books.
- Osofsky, 2016** – *Osofsky, J.* (2016). *Information about trending topics* [Facebook newsroom page]. 2.05.2018. [Electronic resource]. URL: <https://newsroom.fb.com/news/2016/05/information-about-trending-topics/>
- Postman, 2008** – *Postman, N.* (2008). *The information age: A blessing or a curse?* In: Stern, B.S., Kysilka, M.L. (eds.). *Contemporary readings in curriculum*. Thousand Oaks, CA: Sage.
- Potter, 2005** – *Potter, W.J.* (2005). *Media literacy* (3rd ed.). Thousand Oaks, CA: Sage publications.
- Rantanen, 2009** – *Rantanen, T.* (2009). *When news was new*. Malden, MA: Wiley-Blackwell.
- Ryan, Wentworth, 1999** – *Ryan, J., Wentworth, W.* (1999). *Media and Society: The production of culture in the mass media*. Boston, MA: Allyn & Bacon.
- Silverblatt, 2008** – *Silverblatt, A.* (2008). *Media literacy: Keys to interpreting media messages* (3rd ed.). West Port, CT: Praeger Publishers.
- Statista, 2018** – *Statista* (2018). *Internet penetration rate in the Middle East compared to the global internet penetration rate from 2009 to 2017*. [Electronic resource]. URL: <https://www.statista.com/statistics/265171/comparison-of-global-and-middle-eastern-internet-penetration-rate/>
- Stoddard, 2014** – *Stoddard, J.* (2014). *The need for media education in democratic education*. *Democracy and Education*, 22 (1), 1-9.
- Swift, 2016** – *Swift, A.* (2016). *Americans' trust in mass media sinks to new low*. *Gallup*. 14.09.2016. [Electronic resource]. URL: <http://news.gallup.com/poll/195542/americans-trust-mass-media-sinks-new-low.aspx>
- Thielman, 2016** – *Thielman, S.* (2016). *Facebook news selection is in hands of editors not algorithms, documents show*. *The Guardian*. 12.05.2016. [Electronic resource]. URL: https://www.theguardian.com/technology/2016/may/12/facebook-trending-news-leaked-documents-editor-guidelines?CMP=Share_iOSApp_Other
- UNESCO, 2011** – *UNESCO* (2011). *Media and Information Literacy Curriculum for Teachers*. [Electronic resource]. URL: <http://www.unesco.org/new/en/communication-and-information/resources/publications-and-communication-materials/publications/full-list/media-and-information-literacy-curriculum-for-teachers/>
- UNESCO, 2013** – *UNESCO* (2013). *Global Media and Information Literacy Assessment Framework: Country Readiness and Competencies*. [Electronic resource]. URL: <http://unesdoc.unesco.org/images/0022/002246/224655e.pdf>
- Walker, 2015** – *Walker, B.* (2015). *Everyday big statistics*. *Vouchercloud*. 5.04.2015. [Electronic resource]. URL: <http://www.vcloudnews.com/every-day-big-data-statistics-2-5-quintillion-bytes-of-data-created-daily/>