Teaching Information Literacy via Social Media: An Exploration of Connectivism

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Introduction

College students increasingly use social media channels to access the information they need. Although search engines are still the most frequently used method of information retrieval, 95% of recent college graduates also use social media for this purpose (Head, 2015). Despite the common use of these channels, students rarely think critically about the information they read, “like,” and “share” on social media (Kim, Sin & Yoo-Lee, 2014). Librarians can play an important role in adapting information literacy skills to these non-traditional sources inside and outside of academic contexts.

Libraries that already embrace social media can seize the opportunity to shift their focus from the promotion and marketing of library events to the development of information literacy skills. As noted in the 2014 State of the Libraries report, 76% of academic libraries use social media, with the top three purposes being the “promotion of library services, marketing of events, and community building” (American Library Association, p. 35). Notwithstanding those percentages, academic libraries seldom leverage social media to teach information literacy despite the fact that user education is nearly always present in their library mission statements (Johnson & Burclaff, 2013).

The authors propose that social media platforms provide an excellent opportunity for teaching information literacy skills to college students who are already actively using it to create, curate and share information. Furthermore, the authors argue that using social media to teach information literacy skills is bolstered by situating it in the pedagogical theory of connectivism.

Connectivism
Developed by George Siemens (2005) and Stephen Downes (2005), connectivism provides a theoretical understanding of transformations in learning resulting from a proliferation in networked technology. The theory is rooted in the idea that knowledge can exist outside of ourselves and be distributed among networks (e.g., throughout an organization, in a database, or among group of friends), and that learning relies on our ability to draw relevant connections. Connectivism defines learning as actionable knowledge: that is, the ability to take action as a result of making connections between a variety of information sources. The theory of connectivism holds that the process of making connections throughout one’s networks and his or her experience represents learning. Thus, better learning and decision-making will come from those who are connected to networks with diverse and expert information.

Connectivism recognizes that learning can happen through formal or informal channels and often happens through informal networks including “communities of practice, personal networks, and through completion of work-related tasks” (Siemens, 2005). Connectivism argues that “learning can reside outside of ourselves, is focused on connecting specialized information sets, and the connections that enable us to learn are more important than our current state of knowing” (Siemens, 2005). This represents a shift in what it means to “know” as knowledge doesn’t need to be stored internally; instead knowledge could be stored externally in one’s formal and informal networks. Learning takes place when one is able to make connections between pieces of information in formal and informal networks.

Critics of connectivism argue, rather than a theory to help us understand how learning happens, connectivism is a pedagogy or phenomenon with the possibility of
changing the way we develop curriculum (Verhagan, 2006; Bell, 2011). Kop and Hill (2008) compared connectivism to similar learning theories, and argue that while too many concepts overlap for them to see connectivism as a unique learning theory, it is useful for considering the educational shift to autonomous learning and emerging technologies. While its critics address potential limitations, this paper suggests connectivism as a needed theoretical framework that addresses decentralized learning and provides the potential to examine social media as a medium for teaching information literacy.

**Social Media, Learning and Connectivism**

The principles of connectivism characterize a shifting information landscape, the recognition that information is acquired constantly and changes quickly, and the ability to identify meaningful information is an essential skill (Siemens, 2005). Social media are a manifestation of connectivism’s principles. They foster diverse connections as they are often a meeting ground between scholars, students, organizations, news outlets and a variety of other information providers.

Using the principles of connectivism in conjunction with social media is not without its limitations. Friesen and Lowe argue that any for-profit social media service is unsuitable for educational purposes because, to borrow the idea from Williams (as cited in Friesen & Lowe, 2012), when advertising is the purpose of the medium, it restricts the ability to use it for learning. A key example is the inability to “dislike” something on Facebook, which limits the academic discourse (Friesen & Lowe, 2012). The recent addition of reaction emojis on Facebook provides more opportunities for engagement, but
still falls short of intellectual communication. However, information literacy instruction cannot exist in a vacuum, and using existing social media to critique the information shared within these networks can provide learning opportunities.

Numerous studies have documented social media tools in educational settings (Tess, 2013). Allen and Tay (2012) analyzed students reported use and actual use of wikis for college assignments. Boyd (2013) explored the use and limitations of blogs in the classroom. Mendez, Le and De La Cruz (2014) provided a case study to show the beneficial features and potential costs of using Facebook group in a college course. All of these studies discuss the limitations of using social media for educational purposes, as social network sites, blogs, wikis, and other social media tools were not developed for educational purposes. As Kimmerle, Moskaliuk, Oeberst and Cress (2015) point out, social media were developed to support communities rather than instruction classrooms, and that social media facilitate collective knowledge construction instead of individual learning. They proposed a systems-theoretical approach to analyze social media in an educational context. In their findings, they emphasized social media are most useful for self-organized communities that have self-developed goals, a sense of belonging, and active contributors. Classrooms that can offer a sense of autonomy and motivation will be the most successful in using social media (Kimmerle et al., 2015). Specifically looking at librarian-student interactions, Transue (2013) ties connectivism principles to the Information Literacy Standards (Association of College & Research Libraries, 2000), and provides examples and suggestions for librarian instruction and interaction using digital media, specifically Wikipedia and RSS feeds. This paper seeks to extend the groundwork
Transue provides, and discuss social media as a tool for teaching information literacy concepts using connectivism.

**Learning Happens Through Connections**

Students frequently connect to other people, resources, and information using social media channels like Facebook, Twitter, LinkedIn, and Tumblr. A recent study by Kim, Sin and Yoo-Lee (2014) found that 95% of college students use social media sites as an information source. These sites are often manifestations of students’ formal and informal networks: students “friend,” “like,” or “follow” the people, organizations and information sources. In return, students are connected to an almost endless amount of information. This convenient access means students no longer need to store knowledge internally. Instead, they need the core skill of finding, or re-finding, information (Sparrow, Liu, & Wegner, 2011).

Social media channels are rich environments in which to develop search skills, which invokes the connectivism principle “learning happens through connections.” Social media removes many constraints of a conventional learning environment. Traditional university classrooms are designed to focus learners’ attention on a single lecturer in the front of the room, rather than encourage learners to learn from one another, make connections and build on one another’s networks (Wesch, 2013). The traditional classroom places emphasis on teacher-as-expert, where students are told what sources to use for a given assignment. This model becomes problematic after college, when graduates must find information for themselves. Studies suggest that employees are well served by adaptive learning strategies (Tyre & von Hippel, 1997) and the affordances of
learning through social networks (King, Greianus, Carbonaro, Drummond & Patterson, 2009). Integrating these skills into higher education give learners a chance to practice adaptive and cooperative social learning. Shifts away from lecture-based to cooperative education allow students to learn how networks aid in information discovery, and mimic social media’s collaborative environments. Instead of one-way, static communications, social media give individuals networks to explore and search for relevant information.

To encourage the use of network connections, librarians’ research tools must go beyond library databases and include social media, where students are already reading, liking, commenting on, and sharing articles. Facebook and Twitter feeds display trending topics that exposes a range of voices on a particular issue or news item. Students may already notice that social contacts share different information than professional colleagues on social media. Encouraging a conversation about how those different networks communicate can produce more information literate students. In addition, acknowledging the networks a student already belongs to via social media and the information gathered in those -primarily social- networks can build on the skills students already have, which can ease transition into an academic or workplace context.

The affordances of various social media channels encourages learners to engage in more complex information literacy skills. Students already use social media to evaluate and create information. Librarians can encourage them to perform tasks that fall higher on Bloom’s Revised Taxonomy (Krathwohl, 2002). Using social media to share, comment, and critique information allows students to thoughtfully engage with their connections. Bosman and Zagenczyk (2011) provide social media activities that correspond to different levels of Bloom’s taxonomy. The authors list twice as many
ideas to help students engage in “creating,” the top of Bloom’s revised taxonomy, as they
do to help students demonstrate “remembering.” This is because social media channels
remove barriers to publishing, and demand that students engage in more cognitively
complex tasks. However, social media sites rarely provide evaluative guidance.
Librarians can close that gap by teaching information literacy skills using social media
contexts.

Many academic librarians regularly teach information literacy skills to college
students, but rarely do so on social media. The principles of connectivism suggest social
media would be beneficial for teaching information literacy skills. Librarians can use
social media to model how they make connections between various information sources,
using authentic learning to show real world behavior (Klipfel, 2015). When librarians
search for information they rarely rely on one source of information; instead they gather
information from multiple sources in order to draw an informed conclusion. If librarians
model and explain this authentic behavior for students on social media, students can see
how professionals connect sources and may begin incorporating that strategy into their
own information seeking behavior.

**Continuous networking is needed to continue knowledge growth**

Connectivism asserts that learning happens through connections and, continuous
knowledge growth requires continuous networking. This principle of connectivism makes
social media effective tools for teaching information literacy because networks are
readily available. Social media platforms are built around communities that share similar
interests or experiences, or are friends in real life. However, because social media are
built on networks of friends, co-workers, businesses and companies we like, the information and ideas they share on those networks influence the way one sees our world. In 2011 Eli Pariser introduced the idea of the filter bubble. He suggests that algorithm gatekeepers trap people in a filter bubble by censoring information that could shift or expand their worldview. According to Pariser, if people rely on social media to select their information networks they run the risk of limiting their knowledge as a result of algorithmic filtering. Research supports Pariser’s concept of the filter bubble, though it may paint an even more dangerous picture. Flanagan, Hocevar and Samahito (2014) reveal that students are more likely to trust online information when it comes from a group with which they identify and the information aligns with their pre-existing beliefs.

By providing multiple points of view, librarians have the potential to help students expand outside a network they are comfortable with, in order to be exposed to new perspectives. This expansion prompts students to think critically about information.

An increase in learning and knowledge happens socially through the extension of learning networks (Siemens, 2005). When these learning networks are focused on the individual, such as giving customized feedback and responses, they are called personal learning networks (Sie et al., 2013). A study on why and how users learn through personal learning networks discovered that most users found the reciprocity to be useful, saw these networks as fun and informal ways to learn, and provided them the ability to take control of their learning (Sie et al., 2013). Personal learning networks often have the advantage of being authentic networks, as opposed to an inauthentic network created through a classroom environment. However, Tu, Sujo-Montes, Yen, Chan, and Blocher (2012) developed a connectivism-based course where instructors and students were all
equal parts of the network, and they allowed the networks hubs and nodes to form organically. Demonstrating, sharing, and encouraging students’ network growth introduces new nodes of learning, and can increase information literacy skills and knowledge growth.

Librarians can enhance student networks by introducing new, reliable information sources, called nodes in connectivism. For example, librarians can introduce students to new, high quality nodes (authors, journals, etc.) or relevant networks (library databases, academic search tools, etc.). Students are more receptive to new information when it is built off of prior knowledge (Campbell, 2008, p.9), so introducing nodes and networks in a social media setting, which is familiar, and acknowledging their current use of social media to share and connect to information, will facilitate learning. Gradually but continuously introducing sources to learners’ personal networks will facilitate continued knowledge growth as learners have access to more and diverse information sources. This equips learners with the capacity to know more, through additional, new connections.

**The ability to see connections is a core skill**

Connectivism recognizes the ability to identify connections across networks as a core skill. Siemens (2006) argues that knowledge is not something to be acquired, but rather knowledge is the result of connections made through interactions with information, activities and experience. The ability to make connections with existing knowledge, whether stored internally or externally, as new information and data is introduced, gives leaners the ability to make meaningful, well-informed decisions.
Students turn to social media as a primary source of information in their personal and academic lives (Kim, Sin & Yoo-Lee, 2014), which makes it an ideal place for students to learn and practice synthesis, the skill of making connections between information sources in order to make more sense of the world. Social media channels are equipped with features that allow users to see those connections. Users can easily collect a variety of online information sources to create a narrative using Storify, track conversations between disparate sources by following a hashtag, and contribute new information to a conversation by commenting on a post. Librarians can take advantage of these features to model strong information literacy skills.

Connectivism theory argues that even before identifying connections, source evaluation must be a reflective skill (Siemens, 2005). Although Kim, Sin and Yoo-Lee (2014) found that students often turn to social media for information, students infrequently (2.4 on a 4 point scale) took evaluative actions with that information. This lack of evaluation can result in misguided knowledge and faulty decision making, particularly in today’s rapidly evolving knowledge economy, where people are often called to take action without personal knowledge of a particular event or issues (Siemens, 2005). Thus, students rely on their own networks for information, making source evaluation even more critical.

The ability for anyone to contribute information on social media adds to the complexity of evaluating networks and identifying connections. In his book, Here Comes Everybody: The Power of Organizing without Organizations, Clay Shirky (2008), presents the idea of mass amateurization. Mass amateurization is the result of the ease with which unskilled experts can upload and share information on the web. As a result,
users of the web have enormous amounts of information at their fingertips and must rely on the masses (popularity, rating systems, or group editing) to sift through the content to determine the accessibility and validity of the information. Research indicates that when users are unable to evaluate the authority of a source, because that information is scarce or missing, users rely on other elements of a site including design, popularity or other hints of expertise (Flanagin, Hocevar and Samahito, 2013). However, if, as connectivism posits, learning takes place when users make connections between nodes in their network, it is important that those nodes, or sources, have reliable and valuable information. If not, the learning may be misinformed or limited. Those with information expertise, like librarians and other information professionals, can enhance networks on social media by providing quality content and enhance learning by sharing content that helps users reflect meaningfully on the quality of information in their networks.

Effective decision making relies on students’ ability to access and draw connections between appropriate, reliable sources, which requires evaluation skills. The ability to critically evaluate information is a strong tenet of information literacy. That skill is articulated in the ACRL Information Literacy Competency Standards for Higher Education, Standard 3, “The information literate student evaluates information and its sources critically…” (Association of College & Research Libraries, 2000) and as an essential skill students must possess to cross through the thresholds outlined in the new Framework for Information Literacy for Higher Education (Association of College & Research Libraries, 2015). Using social media, librarians can help students build evaluative skills by calling out authoritative sources and offering students strategies for being critical of their own networks. This manifests itself most seamlessly if librarians
demonstrate and explain techniques used to evaluate networks. For example, a librarian can post links to the same story covered by different information sources and highlight evidence of bias within each of the networks from which the link came. Being explicit about where information comes from and how it is related to other pieces of information on other networks helps students gain awareness of connections in various social media contexts. This awareness adds to their own critical information literacy skills.

The Challenge of Authenticity

Connectivism provides a strong theoretical backing to support librarians’ use of social media to teach information literacy. However, the success of information literacy education via social media is dependent on librarians’ ability to be authentic members of learners’ social networks. It is important that librarians do not force themselves into a network, or artificially declare themselves as a hub, but rather to be included in students’ personal learning networks based on perceived value, trust and support, and feedback. Transue (2013) argues that a critical piece of information literacy instruction is to help students add reliable resources to their personal networks. In order for librarians to facilitate knowledge growth through network growth, librarians must become part of the students’ learning networks. Transue (2013) suggests this could happen through referrals from teaching faculty, in order to make students less reluctant to contact a librarian for help. This is supported by a similar study from Greenbank (2011) found that students seek advice from people in their networks with whom they are comfortable. Different mediums require different levels of engagement for authenticity. For example, Facebook requires more authenticity because its network functions on mostly private, personal
connections. Conversely, Twitter, Tumblr, and other blog-like social media require less engagement for authenticity because these networks rely on a one-to-many scale, with less intimacy. Studies have shown that students prefer contacting a librarian virtually (Lederer & Feldman, 2012), as long as the platform is efficient (Chow & Croxton, 2014). These studies suggest social media can be a promising point of engagement for librarians if the challenge of authenticity can be overcome.

**Conclusion**

Libraries use social media, but often as marketing or outreach tools, and seldom to teach information literacy. However, students use social media to consume and create information. If we hope to graduate students with high information literacy skills across the curriculum and the capacity for lifelong learning, it is necessary to teach students information literacy in the environments in which they are most likely to need and use information literacy skills. Connectivism illustrates the educational potential for engaging with students on social media. To be successful, those intending to use social media to teach information literacy must: model good behavior, facilitate network growth, and help students build the capacity to consider a source's context and evaluate information critically.

While this paper provides theoretical support, there is need for a number of future studies exploring other theories as well as practical applications of teaching information literacy using social media. Future studies should explore how librarians can best engage students in information literacy-based social media content, how teaching information literacy using social media could impact library instruction, and how to most effectively
build the trust necessary to teach students using social media. These are real hurdles that impact how successful libraries can be in helping college students become critical producers and consumers of information in their most frequently used medium.
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