

Chapter x: Social Media and Education: Curation Within and Outside the Schoolhouse

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x.1 Introduction

Education in the United States has witnessed many technological innovations rise and fall. Since the invention of the computer, human's ability to access knowledge and analyze data has grown exponentially. Within schools, technology presents great potential for students and teachers. In the 1960's, educational television was primed as a promising technology that would change schooling fundamentally (Cuban, 1986). In the 1990's, policymakers regarded Computer-Assisted Instruction as a potential solution to under-resourced and inequitable schools (Cuban, 1986). Yet to date, diffusing technology into schools' daily routine in meaningful ways remains challenging. Scholars attribute many factors to the seeming failure of technology innovation in education, including the persistence of the traditional approach to instruction, and the lack of incentive for teachers to reform their practices in order to take on new technology in their classrooms (Cohen, 1987). Within the schoolhouse, educational technology largely remains a separate component to primary schooling.

Historically, teachers are prone to resist technology innovation or essentially any top down educational reform that attempts to disrupt their daily practices (Cohen, 1987). In fact, organizational context is one of the main sources that contribute to the persistence of teaching

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practices in the United States. Teachers working within a school system with particular curricular and district requirements may be compliant with required technology applications, yet the sustainability of their practices with integrated technological innovation depends largely on whether it fits within their teaching knowledge and beliefs (Frank, Zhao, Penuel, Ellefson, & Porter, 2011).

In contrast, social media in education is a spontaneous, grass root movement originated from teachers themselves. This mirrors larger informal trends within society in which computers and technology have presumed a place of interactive, daily engagement. People pay with their phones, check social media for their news, and talk through text. Communication happens with those you physically and virtually know, across geography. Web 2.0 and social media represent a collective space, full of social networks, that extend across physical and virtual boundaries and personal and professional affiliation (Fuchs, 2017). Individuals are given the opportunity to make and do things, collaborate with others, and be entrepreneurs without traditional barriers to entry (Guantlett, 2013).

Social media is social in nature. Social media in education may provide teachers the opportunity to act as professional leaders and engage one another. Flattening hierarchical structures within and across organizations, it provides teachers the affordance to proactively produce and diffuse knowledge within their field. Thus, social media engagement encourages connectivity among educational professionals and creates a global community of practices. This significantly differs from prior technological innovation in education, in which knowledge delivery was prioritized and technology was considered more an assistance to human efficiency rather than a tool to support professional connection and creativity (Fuchs, 2017).

Connecting individuals through collaboration, social media platforms offer great potential to empower teachers as professional leaders who define reform and restructure

educational hierarchies and networks. Teachers' engagement in virtual spaces extends across their professional and personal lives, as they engage in instructional planning, professional learning, and reflection beyond the school day. In result, the "resistance" problem researchers observed in many seemingly failed prior reform efforts is mitigated as teachers leverage their social capital and networks in a more connected and diverse social media space. Web 2.0 shifts technology emphases from cognition to cooperation, networking, and collaboration. Thus, social media have permeated the lives of teachers, formally and informally, and for many become a regular part of their profession.

Though technology has yet to succeed in fundamentally changing teaching and learning, remaining a periphery tool for teachers and schools, within society, people increasingly engage online--spanning virtual and physical boundaries (Hampton, 2016). Teachers' agency and connectivity in leveraging social capital within virtual spaces to drive instruction in their classroom are sufficient but not necessary conditions for social media success. Though many teachers are actively engaged in social media sharing professional knowledge and practice, it is unknown how this may impact education. As an emerging educational space, social media in education has yet to be widely recognized by stakeholder groups including policy makers, academics, parents, and students. This chapter will provide perspective on social media in education, teachers' use of social media, and role in a virtual professional community. Overall, it will explore how social media contributes to the process of knowledge construction and acquisition.

x.2 Social Media and Virtual Resources Pools

Social media and educational engagement intersect, but do not converge. Social media sites, or social network/networking sites are internet-based services that allow individuals or entities to 1) curate, supply, and consume user-generated data; 2) develop and maintain social network ties, and 3) interact with content and network (boyd & Ellison, 2007;

Ellison & boyd, 2013; Greenhow & Askari, 2017). Whereas, user-generated accessible instructional resources and educational content characterize a virtual resource pool (VRP) (Torphy, Hu, Liu & Chen, 2017). Social networking spaces do not all serve educational purposes, while VRPs do not all afford social networking. Figure X below illustrates the nuances of social media sites and virtual resource pools.

Figure 1. Social media sites, virtual resource pools, and their intersection

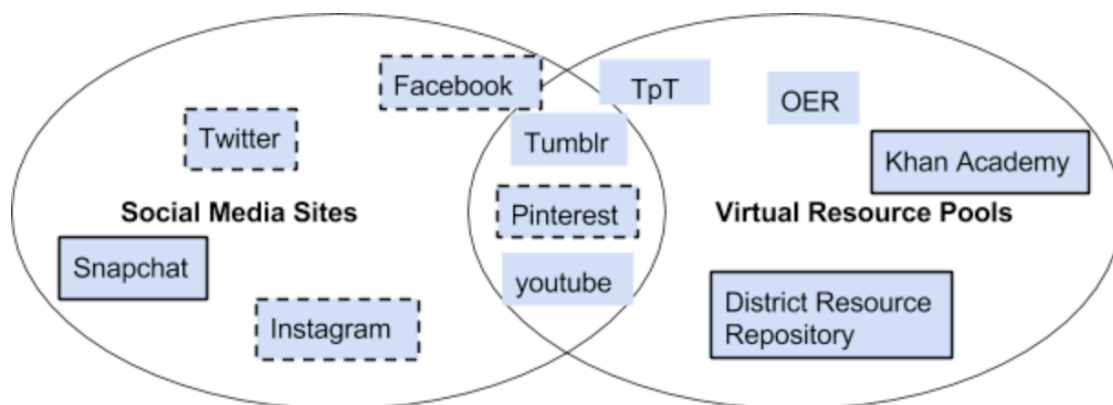


Figure 1 above depicts a variety of current social media and VRPs. We distinguish communities between the open, semi-open, and the closed lines surrounding each virtual space. Additionally, virtual platforms are situated as social media, VRP, or a combination thereof, containing both the ability to network with others, and to access educational resources.

The function and the purpose for which people use particular social media largely depend on the openness of accessing others information within a virtual space. The degree to which a community is open is determined by one's ability to access others information publicly. An open community features an online site that allows users to access content generated by others without the owner's permission. In contrast, a closed community attempts to constrain knowledge and information unless granted access by the content

generator(s). In some cases, closed communities may even constrain who can generate content on a site for others consumption, such as Khan Academy. Semi-open communities exist within a continuum between open and closed virtual spaces. Within these spaces, owners of content and knowledge may choose to remain public or tailor their privacy preferences.

Some virtual spaces intersect both social media and VRP, varying in their public accessibility. A case in point, Pinterest, stands as a social media site with full social network and VRP functionality. Educational professionals not only use Pinterest to generate and consume educational content within Pinterest, but they also connect with a global professional learning community to acquire and diffuse knowledge and practice. Pinterest is a central VRP and links all resources back to their original purveyor. One prominent VRP, in which many purveyors reside, is a teacher-to-teacher market, Teacherspayteachers (TpT). TpT is an open community in which teachers can browse resources that users upload for sale within the market. Teacherpreneurs, educational leaders invested in directing the trajectory of their teaching--despite risks of wasted time and unknown instructional quality, convene within TpT to buy and sell professional materials. Though TpT allows users to follow their favorite teacherpreneurs, it does not afford the full social networking capabilities of traditional social media (i.e. publicity or semi-publicity of social ties) (Ellison & boyd, 2013; Greenhow & Askari, 2017). As such, TpT is often linked to Pinterest with transitive transferrable social network structures across virtual communities.

The accessibility of a community contributes to the diffusion of knowledge and information by leveraging the power of social networking. Virtual networks both connect teachers to one another across geography and to new knowledge and resources they may not have encountered otherwise. Through expanded networks, best teaching practices and instructional resources may be constructed, negotiated within a community of professionals,

and diffused--efficiently and with little cost. Yet, with infinitely growing available resources and social networks, information overload may present a paradox of choice (Schwartz, 2004). Therefore, people may increasingly turn to trusted others when making professional decisions.

x.3 Curation

As the world flattens, societies become more connected (Friedman, 2005), people sustain personal and professional connections longer (Hampton, 2016), while government, business, and individuals may increase consideration of what and how information and resources are shared and diffuse within their purview. Over time the internet has shifted from the supreme encyclopedia to the consummate social network with an infinite rolodex of contacts. Discourse on Twitter, ideas on Pinterest, photos on Facebook; information from whom, regarding what.

Enter curators, those people synthesizing existing ideas of materials into a coherent set, provide a new and innovative perspective (Koestler, 1964). Curation takes on many meanings: personal choice (Cullen as quoted by Bhaskar, 2016, p. 73), preservation (Gayford as quoted by Bhaskar, 2016), or a cure to big data overload (Bhaskar, 2016). Composing collections of resources, artifacts, and information requires both choosing and then preserving for others to draw upon.

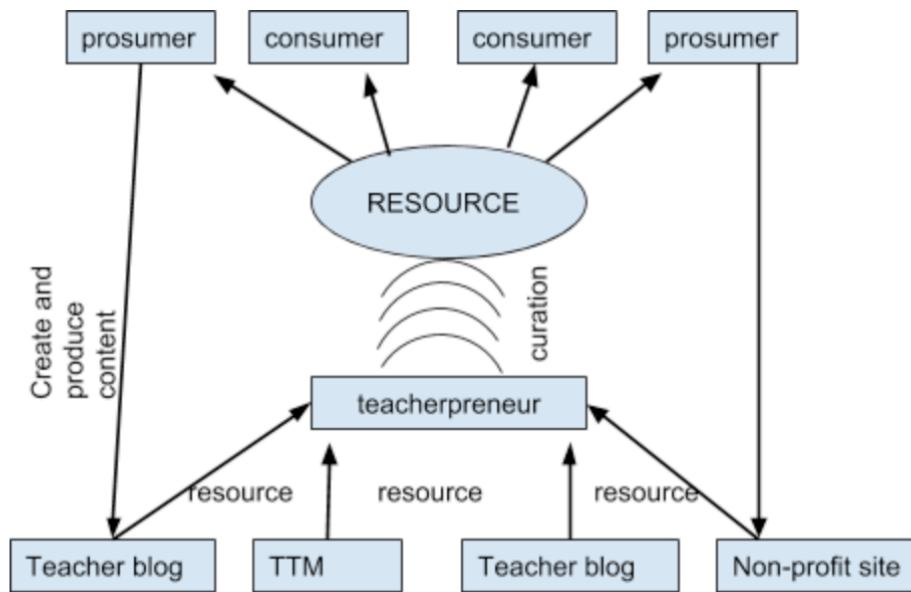
Relying on curated ideas or materials may help individuals save time, find better resources, and reduce cognitive demand. In education, teachers are encouraged not to “rebuild the wheel” and instead share and improve upon existing strategies and work. As an increasing amount of educators move into virtually curated spaces, how they choose and care for their curated resources may relate to their relevance and sustainability.

In the past, curation was promoted and directed by historically trusted organizations. Museums, such as the Louvre, preserved and cared for their artifacts, paintings, and all else.

Hired curators chose content to exhibit that might convey ideas, an era, or an emotion. Over time, this hierarchical diffusion of knowledge has fundamentally shifted within a flat and connected virtual social space. In the age of the internet, hobbyists may enter and exit marketplaces to create and share goods or ideas—as in the case of Etsy, Wikipedia, and Tumblr. Notions of consumer and producer conflate—with those engaged in both production and consumerism known as prosumers (Bhaskar, 2016, p. 37). Yet production and consumerism may not represent the only actors within a marketplace. In education, teacherpreneurs may produce resources and knowledge diffusing them beyond the schoolroom (Torphy, Hu, Liu, & Chen, 2017).

Curation may be divided into two types of activities, thick curation which is human led, and thin curation which is machine led (Bhaskar, 2016, p. 233). Thick curation is evidence and application of individuals' sense-making activities that combine cognitive and affective dimensions. One prominent teacherpreneur blogger writes, "I started this blog in May of 2011 as a way to connect with other teachers and share my resources. I have always created activities and decorations for my classroom because I just like adding that personal touch!" (Lemons, 2013). Through collaboration and communication, teacherpreneurs may share their own beliefs, emotions, and professional perspective by engagement in social and educational activities within social media. These sense-making activities fit into one's own cognitive and affective systems making possible the sustainability and rapid development of teacherpreneurial behavior in curated social media spaces. Figure X below illustrates the curation of professional learning and instruction within education.

Figure 2. Curating Professional Learning and Instruction

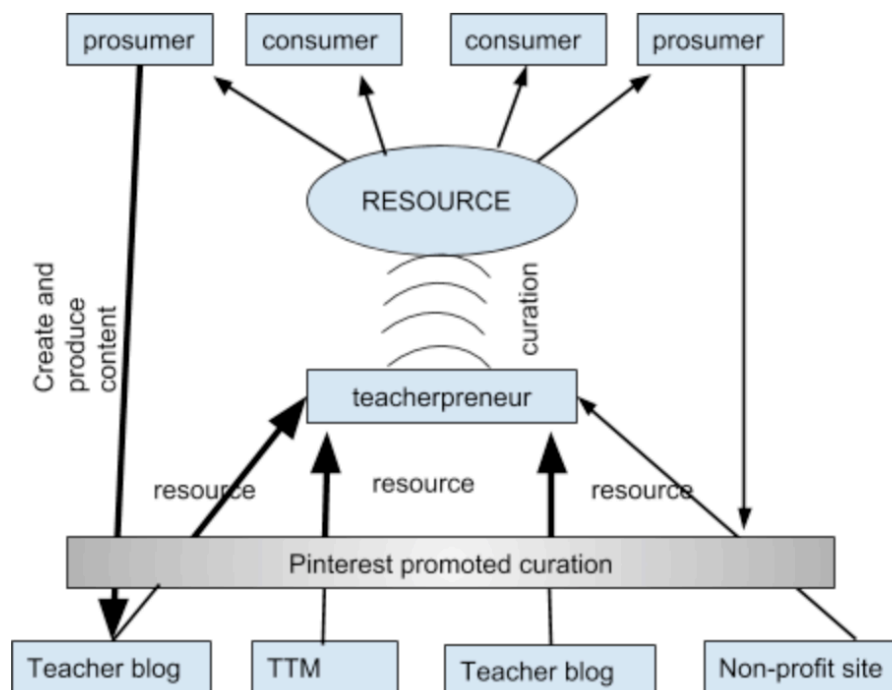


In Figure 2 we see purveyors of resources across a variety of online sites including teacher blogs, teacher to teacher markets (TTMs), and non-profit educational sites such as CCSS.org. Bloggers and authors create and make accessible resources within their site. Teacherpreneurs, curating educational content that relates to their professional local context and subject or grade level, choose and organize resources in a way that makes most sense to them. Through this sense making process, teacherpreneurs curate content both for themselves and to present themselves to the world. Resources are diffused across social media platforms and VRPs, being accessed and saved by consumers and prosumers (those individuals who create and diffuse content themselves).

Social media, as part of a larger online community, also incorporates thin curation--produced by machine learning algorithms that track human behavior--to shape individuals' exposure to certain knowledge and resources. Resources are created and diffused by individuals and organizational entities across VRPs and social media. Yet, as an additional layer of complexity, machine learning algorithms contribute to resource promulgation and social networking. Thus, within social media Figure X may incorporate personal and

computer assisted curation.

Figure 3. Curating Professional Learning and Instruction within Social Media



In Figure 3, Pinterest’s machine learning algorithm for individuals preferred content and native advertising is represented as filtering purveyor content accessed by teacherpreneurs. Teacherpreneurs may choose to access unpromoted content, however, are likely to have additional exposure to promoted Pinterest content, as depicted by the thicker arrows. Resources are then curated and saved for oneself and others. Furthermore, as prosumers access and diffuse resources back into VRPs through their own curated spaces and original online content, their position within social media weighs their strength as a purveyor of content. “Pinterest is...a composite--people’s personal curation fills their own boards, while the site as a whole uses various machine-driven mechanisms for finding, recommending, and sorting that material. So its users make Pinterest a thickly curated space; but Pinterest has built its own curation to help” (Bhaskar, 2016, p. 234). Therefore, both the content and the purveyor are curated and considered on Pinterest.

Through thick and thin curation, social media presents a complex space of knowledge, information promulgation, and individual self expression--both personal and professional. The responsibility to present knowledge represents individual's interest in making an impact on their profession and society. Though the resources stand at the center of curation (Bhaskar, 2016), the purveyor of knowledge, the teacherpreneur, is paramount to the trust of those seeking and accessing resources. Thus, teachers are still imperative to the ecology of social media and education (Zhao & Frank, 2003). How people choose to combine collections, frame and present their thoughts and themselves to the world is an inherently human question.

x.4 Implications for Policy and Practice

Teachers engagement within social media has grown over the past several years. In a nationally representative survey conducted by researchers at the RAND corporation, K-12 teachers reported resorting to Pinterest and TpT for Common Core State Standards aligned resources online (Opfer, Kaufman, & Thompson, 2016). These researchers are not alone in their findings, as studies at various scale also echo the prevalence of teachers' engagement in social media for various educational agenda, including but not limited to planning for classroom instruction (Hu, Torphy, Lane, & Jansen, in preparation) and shaping the landscape of educational policy (Supervitz, Kolouch, Daly, & del Fresno, 2017).

Given the significant amount of time and effort that teachers have invested in virtual spaces (Nguyen, 2016), the federal government has also entered the social media in education landscape, promoting and facilitating the access of quality resources within VRPs. The federally sponsored #GoOpen campaign in 20 states and 110 districts builds accessible, open structures for sharing and curating educational resources (see, <https://tech.ed.gov/open/>). Yet, it is unknown how new organizational structures will support teachers' curation of diverse virtual materials and networks encompassed in and across VRPs. Within the virtual realm,

the space between action and reaction may be measured in seconds or minutes; a space in which a presidential tweet regarding foreign policy launched a warship (Supervitz, Kolouch, Daly, & del Fresno, &, 2017). Policymakers should consider the pace of interaction within virtual spaces as they develop online virtual platforms (i.e. open educational resource pools) and situate educational reforms in broader educational policy agendas.

Informal social networks hold potential to connect teacher professionals to one another and within larger professional learning networks (Zhao, Zhang, Lei, & Qiu, 2015). Informal network potential may increase in an era of social media, as teachers' professional learning networks expand exponentially outside schoolhouse boundaries. Increased connectivity among teachers across time and physical locale hold the potential to contribute professional learning communities and teacher leadership across teacher turnover churn. While the documentation of curated resources allows new educators to more quickly gain institutional knowledge regarding their colleagues' professional orientation and practices.

Despite the rapid development of social media use and federal awareness of a phenomenon within education, researchers have not kept pace as leaders and innovators. Perhaps memory of prior failed technology reforms contributes to reticence in supporting research regarding social media in education. Though digitalization of curricular materials have gathered some interest from curriculum developers, policy makers, and the private sector in recent years (Choppin & Borys, 2017), the focus, has been to change the nature and characteristics of instructional materials, rather than the mechanisms behind their generation, compilation, and distribution. Perhaps even less attention has been paid to the variation among digital materials and their diffusion into U.S. classrooms.

Yet, fundamental shifts from an online universe of tacit knowledge to a collaborative, networked community in which knowledge is produced, accrued, and shared suggests social media in education, teacherpreneurial behavior, and the curation of U.S. education warrants

attention outside purely digitalization of curricular materials. Instead, social media in education may reflect larger societal trends of connectivity and the socialization of knowledge and resources (Fuchs, 2017; Hampton, 2016).

As teacher leaders become more connected and empowered within their profession, we must support efforts toward transparency, quality, and accountability. Teacherpreneurs, as curators of educational resources, should be equipped with digital literacy as it is defined within social media and socialized knowledge communities. Socialized knowledge communities are developed through emergent social engagement by teachers regarding their profession. In contrast to professional learning communities, these communities are not developed and managed by the organization, i.e. the school, and instead are sustained by teachers grass roots involvement therein. Socialized knowledge communities provide individuals an opportunity to access and in some cases produce knowledge and resources as part of a larger network of professionals. Through transparency, teacherpreneurs and others invested in education may be able to identify the purveyor of the resource and well as the quality of the resource as it relates to their local context. Both through individual training and machine learning algorithms we may be able to provide teachers with higher quality instructional resources. While, through transparency teacherpreneurs may be better able to identify and curate a relevant curriculum for their students.

As grass roots and federal efforts towards virtual resource pools and network professional communities continue, teacherpreneurial activities may grow within virtual and physical spaces. It is likely that teachers will continue to seek out independent opportunities to direct their instructional trajectory and tailor curriculum to their individual student needs. However, as curation efforts require a significant amount of time, effort, and content knowledge we expect an increasing number of school districts to provide additional people time toward these efforts. It is encouraged that those districts engaged in the curation of

curriculum consider the teacher as an active curator of content, as curation engages both the individual as they make sense of materials and knowledge and their networked peers as they present this knowledge and resources to the world.

Finally, we may leverage big data analytics to provide useful understanding regarding teachers' conceptualization of instruction and their profession. The amount of data accumulated within social media--number of resources created and shared, professional encounters, networks, and interactions--grows exponentially as we write this sentence. These data change by the second and provide a unique glimpse into a teacher's thinking and professional world. As living artifacts, these stand to provide insight into teachers' conceptualization of their profession and instruction as well as provide record of its change and diffusion over time. We can examine teachers' online instructional interactions with little observer bias, over time, and as they actively change. Through these efforts, researchers may better be able to identify educational problems of practice and examine efficacy of piloted solutions. Therefore, we encourage future research to contribute to a theoretical grounding on the purposes of social media, how they facilitate and shape teachers' social and professional exchanges. This work is the first step in deeper theoretical and empirical investigations into education professionals' engagement across social media and VRPs today.

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