Chapter 4

Social Media-Based Data Collection and Analysis in Educational Research

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ABSTRACT

The past decades have brought many changes to education, including the role of social media in education. Social media data offer educational researchers first-hand insights into educational processes. This is different from most traditional and often obtrusive data collection methods (e.g., interviews and surveys). Many researchers have explored the role of social media in education, such as the value of social media in the classroom, the relationship between academic achievement and social media. However, the role of social media in educational research, including data collection and analysis from social media, has been examined to a far lesser degree. This study seeks to discuss the potential of social media for educational research. The purpose of this chapter is to illustrate the process of collecting and analyzing social media data through a pilot study of current math educational conditions.

INTRODUCTION

Due to rapidly increasing advances in technology, many of today’s activities are carried out online. These include mundane tasks, such as shopping and business communications. Internet connectivity and smart devices in schools, homes, neighborhoods, and communities have become increasingly pervasive, enabling expanded opportunities for formal and informal learning. Moreover, technological advancements have contributed significantly to people’s adoption of social media platforms, with approximately 90% adults using the Internet regularly - 100% of people aged 18-29, 97% of people aged 30-49, and 88% of people aged 50-64 (Pew Research Center, 2019). It is also reported that 95% of teens have access to a smartphone, and 45% say they are online almost constantly (Anderson & Jiang, 2018). The combination of computers, Internet access, smart digital technologies, and social media platforms are moving the ecology of education to a new era (Pew Research Center, 2018). Such shifts have impacted
constructs for learning, instruction, and paths for future research (Greenhow & Robelia, 2009). In this chapter, the author seeks to address the reasons for the popularity of social media, the role of social media in educational activities, as well as how to conduct educational research with social media-based data collection and analysis.

**BACKGROUND**

**What Social Media Are and What Makes Them Popular**

Social media refers to Internet tools and applications that allow users to share content and communicate with other users. Nowadays, most users utilize social media through applications (apps) which are installed on mobile devices, such as mobile phones, which allow for near real-time sharing of information. These apps tend to be free or very inexpensive and allow users unfiltered access to a broad community. In this sense, they meet a basic human need of connecting with others. They permit connectivity across geographic and even language boundaries, and are utilized to share day-to-day life activities in the form of texts and images, express opinions, follow and interact with the postings of others. Social media allow users to share the details of their lives as they unfold on a daily basis. These features have driven the usage rates of social media to unprecedented levels, with virtual communities that extend across the globe.

Social media are used by organizations, often as a way to communicate with customers, employees, and competitors. They are also used for advertisement, to inform others of events and happenings in their organizations, as a means of professional development, and as a tool to build community among workers and peers locally and internationally.

In education, the connectivity that social media offer has significant potential to enhance educational processes. Students can use social media to interact with teachers outside of the classroom, or join and connect with collaborative groups of learners at a local school or in another country (Erjavec, 2013; Garcia, Elbeltagi, Dungay, & Hardaker, 2015; Susilo & Kaufman, 2014). Teachers can use social media to communicate with colleagues about particular students, share learning resources, and engage in peer mentoring and collaborations (Bett & Makewa, 2018). Administrators can use social media to communicate directly with parents, interact with students and teachers, and conduct a host of administrative functions (Mazer, Murphy, & Simonds, 2007).

**Research on Social Media in Education**

Social media is now becoming a recognized part of the educational environment. Social media tools, such as MySpace, Facebook, Twitter, Edoware, YouTube, WeChat, and Web 2, have been extensively used for educational purposes. Based on a review of recent literature, the author identified three major areas of research on social media in education: (a) The values of implementing social media into classrooms, as well as the relationship between faculty and students via social media; (b) The relation between academic achievement and social media; and (c) The impact of social media environment on learners’ expectation in learning.

Researchers have examined the educational value of social media in the classroom (Boyd, 2007; Lin, 2018; Manca & Ranieri, 2014; Ng’ambi, Brown, Bozalek, Gachago, & Wood, 2016; Prescott, Stodart, Becket, & Wilson, 2015), including the use of social networks for teaching and learning in education.