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Exploring the Use and the Impacts of Social Media on Teaching and Learning Science in Saudi

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Abstract

This article reports on a study conducted on Saudi middle school science teachers and students. The study implemented a 46-item Likert-scale questionnaire, aimed to investigate teachers' vs. students' positions and views in regards: smart devices use and access, the current use of social websites, the use of the web, views of the impact of social media on education, and views of possible impact of official use of social media on teaching and learning. From the basic characteristics of Saudi middle school teachers and students, it is apparently that smart phones are the best possible device to enhance the use of social media in education, where all teachers and almost 75% of students own it, and almost 85% of the students have Internet access at home vs. 95% of the teachers. In regards the social media applications, teachers and students use WhatsApp as a main tool, with 100% for the teachers, and almost 73% for the students. Both the teachers and the students are willing to use social media in education, and they believe it will enhance their educational experiences, but the practice is significantly low; in the meantime, there are agreements that the use of social media is for socialisation only. The infrastructure is available, but the comprehension educational view is absent, the researcher suggest that there is a need for training to evaluate own use of social media, and to enhance the abilities to use available properties.

1. Introduction

Interaction and Information technologies have reshaped our live today, and nowadays' Saudi students and teachers have a massive use of smart phones, iPads and other portable devices; moreover, they are continually

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looking for cutting edge technologies. But often the use of these devices is not in ways anticipated by technology proponents. All these smart phones and other portable devices are equipped or ready for social media applications like Facebook, Twitter, Wikipedia ,YouTube, WhatsApp, Telegram, and Instagram, which are part of what is known as Social Web 2.0, best characterized by the notions of social interaction, content sharing, and collective intelligence. "Social connections affect so many aspects of our lives that our argument that they can also be applied to education and learning should be no surprise" (King and Sen, 2013, p.622). The role of emerging social media may offer new opportunities to enhance the teaching and learning experiences. Zepke and Leach (2010) conclude that motivation and student dispositions will influence their ability to engage in interactive learning. "Students, often referred to as digital natives (Prensky, 2001), have spent most of their time on computers, game consoles, digital music players, video cameras, cell phones, as well as the Web itself" (Jovanovic, Chiong, and Weise, 2012, p39)`

This paper aims to investigate the use of social media in teaching and learning science as a scaffolding tool, and the impact of that on teachers and students in Saudi. The paper argues that students can learn from informal learning situations, using what is available in students' hands, to build a meaningful learning experience in formal education.

2. Background

The truthful learning requires daily social interactions between students and teachers from one side, and from the other side between students and the daily life events; "bridging the all-too-well-known gap between the classroom and the real world. The learning has meaning and relates to the real world because it is modeled on the systems of the real world" (Klopfer, et al, 2009, p.9). Schools aim to develop and to support methods to improve the effectiveness and efficiency of interaction and collaboration among students, and with their teachers. Most of web social media tools have been developed in order to maintain, manage, and improve social interactions between people where people can easily access, reuse or comment on content that is authored by others. The evolving learning environments are allowing students to learn anytime and anywhere (Wetzel, 2010). Educational research demonstrates convincingly that immediate and frequent feedback improves learning (Hodder et al. 1989; Dihoff, Brosvic and Epstein 2003, 2004; Dubner and Levitt 2006; Hattie and Timperley 2007; King and Sen 2013). "Social networks may play an important role in raising awareness about the reliable resources of information among the students and society by providing alternative sources of knowledge". (Battrawi and Muhtaseb, 2013, p.1).

A report published in the US by the National School Board Association (2007) found that 96 percent of youth in this age range have used social networking tools at some time, with their average engagement with them rivaling time spent watching TV at 9 hours a week. Yet perhaps the most stunning statistic of their study is that the topic of most conversation at these sites is education—60 percent of the students' surveys said they use the sites to talk about education topics and more than 50 percent use it to talk about specific schoolwork. (Klopfer, et al, 2009, p.10)

Another report from the Pew Research Center (2010) revealed that 73% of teenagers use some form of social networking by incorporating social media into the lives of students in the classrooms, instructors also incorporate the new literacy that has become part of the students' out-of-school lives (Hahn, 2008; Casey & Evans, 2011). Mason (2008) describes some positive qualities of social media use in the classroom. For example, he points out that using social media in the classroom allows the teacher not only to incorporate multimedia and multimodal texts but also to share these quickly and easily, providing a collaborative learning environment where students can communicate at any time.

Great deal of research in education provides evidence for the effectiveness of using social media technologies directly in the context of traditional education situations or online education (Barab and Duffy 2000; Graff 2003; Rovai 2003; Shea 2006; Dawson 2006; DeSchryver et al. 2009). Some studies have demonstrated the benefits of online social interaction in the learning process. Positive aspects of online interaction with teachers and peers include the following: access to peer and expert knowledge, ability to receive feedback from teachers and peers, and an opportunity to reflect on the exchanged messages (Ellis, 2001). By expressing their thoughts, discussing and challenging the ideas of others, and working together towards a group solution to a given problem, students develop critical thinking skills as well as skills of self-reflection and co-construction of knowledge and meaning (Brindley, Walti, & Blaschke, 2009).

Junco, Heilberger and Loken (2010) sought to discover a causal link between the use of Twitter and other social media and student engagement. Twitter has been studied in relation to its effect on student interaction and engagement, "students engaged with faculty and each other in a vibrant and connected virtual learning environment" (Junco et al, 2010, p. 8). Twitter was also used as a contact path between students and faculty, the use of Twitter