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How College Instructors Use Social Media for Instruction

Benson Njoroge

Dissertation submitted to College of Education and Human Services
at West Virginia University
in partial fulfillment of the requirements
for the Degree of
Doctor of Education
in
Instructional Design and Technology

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ABSTRACT

How College Instructors Use Social Media for Instruction

Benson Njoroge

The use of social media has increased tremendously in recent years with many sectors using it for the purpose of communicating, sharing ideas, gathering information and stating opinions. The use of social media has trickled down into education with instructors using it for teaching and learning. This study used Gagne's Nine Events of Instruction as a framework to investigate the types of social media applications used, and how they are specifically used for instructional purpose in colleges. The study used both qualitative and quantitative methods to analyze data. Results indicated that about 31% of instructors use different social media types in diverse ways that related to Gagne's Nine Events of Instructional design. The study gives insight on the ingenious ways in which instructors use social media for instruction.

Dedication

I dedicate this work to my lovely wife Agnes Mwaura and to my dearest daughter Brenda

Mwaura. To my loving parents Charles Benson Njoroge and mother Phraciah Njoroge who

taught me the value of education.

Acknowledgement

I would like to thank the Almighty God for giving me the strength to complete this project. I would also like to thank my advisor and mentor Dr. Terence Ahern, for the immense support he provided me throughout this work. I would also like to thank my committee members Dr. Reagan Curtis, Dr. Neal Shambaugh, Dr. Kale Ugur and Dr. Alfred Stiller for their valuable suggestions, insight and time.

I would also like to thank my wife Agnes Mwaura for her insurmountable support and encouragement throughout the process. I would also like to thank my father and mother for being there for me throughout my challenging moments.

Many thanks to my colleagues in WVU Teaching and Learning Commons (TLC) for their inconceivable support. Similarly, many thanks to Dr. Amy Kuhn, Dr. Jenny Douglas, Dr. Irene Maundu, Dr. Tracey Beckley, Dr. Joseph Nyachae, Dr. Chifundu Lemani and Jackline Apopa for your encouragement, guidance and advice. I would also like to acknowledge the guidance and advice I received from my dear friend and brother in-law late Dr. Francis Murage. I would also like to acknowledge the encouragement and help in synthesizing statistics I received from my great friend late Anthony Femi.

Last but not least, I would like to thank everyone who directly or indirectly played a role in the completion of my dissertation.

The Table of Contents

List of Tables

List of Figures

Chapter 1

Introduction

The use of social media has increased in the recent years with more people embracing it

for personal and professional use. According to Pew Research Center, 65% of adults now use

social media sites which is nearly a tenfold jump in the past decade (Perrin A. , 2015). There has

been a proliferation of social media use in sectors such as politics, journalism and marketing.

Based on individual companies' statistics in July 2011, Facebook passed 750 million users;

LinkedIn had over 100 million members; Twitter hit over 177 million tweets per day; and

YouTube reached three billion views every day (Chen & Bryer, 2012). These statistics clearly

show that the propensity to use social media will continue to increase as people use it for both

private and professional purposes.

Social media has changed the way people communicate enabling anyone to produce

content. In the past, communication-based media appealed to the consumption of information

through radio, television broadcasts, books and movies. However, with the advent of social

media applications, people have the ability to become producers as well as consumers (Clouds,

2016). Today, people do not just sit back and watch programing, they discuss the programs with

others through social media providing feedback as they consume the content. Social media users

are not merely consumers of broadcasted information but can contribute by sharing their views

and opinions. This makes social media interactive not only in the field of marketing, news and

politics, but also in the field of education where learners can interact with each other and their

instructor. Social media applications have invigorated learner interactions and encouraged

generated information and feedback.

The field of social media has become ubiquitous and dynamic with many people using

different types of social media for different purposes. Social media applications are known to

have collaborative benefits to learning such as learner engagement, increasing social presence and making students become producers rather than mere consumers in learning.

The use of social media has trickled down into the education sector where instructors have used it for both communication and instruction. Recent studies have found that incorporating social media tools in the instructional process increases student learning and collaboration (McAndrew & Johnston, 2012). A study conducted by Seaman and Tinti-Kane (2013) revealed that many faculty members have used external social media sites for both personal and professional reasons, while a smaller proportion also believe that social media sites have a place within their course for the purpose to teaching and learning. A study by Seaman and Tinti-Kane (2013) revealed that faculty use social media for both personal and professional purpose and that over a half of all teaching faculty reported that they use social media at least monthly. The use of social media applications for the purpose of instruction allows learners to become producers rather than mere consumers of information.

Despite the fact that social media enhances the teaching and learning process (Friedman & Friedman, 2013), there are a few concerns that have drawn instructors away from using it. Research conducted by Seaman & Tinti-Kane (2013) revealed that concerns about privacy for both the instructors and the students is a major issue in the use of social media tools. This study endeavored to establish the level of concern in the use of social media for instruction. This was achieved in the through requiring the instructor to rate Likert statements on concerns that deter them from using social media for instruction.

For this study social media is defined as an Internet-based application used for social interactions which have highly accessible and scalable publishing methods that facilitate the sharing of ideas, content, thoughts and relationships online (Morgan, Jones, & Hodges 2012).

2

These applications facilitate the creation and exchange of user generated information and have been widely used for information broadcasting and collecting. Social media has also been used for collaborative learning as well as online social and professional connections.

Significance of this Study

Social media applications are typically used as communication hubs in higher education through which the activities of posting announcements, keeping in touch with alumni, marketing and recruiting efforts are realized (Reuben, 2008). However, very little research has been done to understand how an instructor specifically integrates social media into their instruction. This study focused on the use of social media by instructors for the purpose of delivering instruction in the teaching and learning process. Additionally, the study tried to establish the types social media applications used by instructors in higher education and how they specifically use them for the purpose of delivering instruction.

Although research has established that instructors use social media at the college level for professional and private purposes, a clear baseline has not been established on how instructors are using social media to deliver instruction. There have been few studies that have been conducted to establish the specifics of what types of applications as well as how instructors are using social media applications to deliver instruction. (Cao, Ajjan, & Hong, 2013). Although the field of social media is relatively new and has grown rapidly with different social media application being devised and implemented over time, the specifics of how social media is used for instruction has not been clear and have continued to evoke curiosity and hence the need for research.

Gagne's Nine Events of Instruction framework was used as the framework to explore the use of social media for instruction in this study. Both Bloom and Gagne believed that it was

important to break down human learned capabilities into domains (Micheal & Cunningham, 1996). In contrast Bloom's Taxonomy emphasizes the measurable outcomes in assessing the effectiveness of the learning process and tends to be learner oriented while Gagne's events of instruction focuses on instructional design and is instructor centered. Since this study focused on how the instructor designs their instruction, Gagne's Nine Events of Instruction was used with the purpose of exploring the use of social media by instructors. Although the instructor may not have intentionally planned or designed their instructional activities using Gagne's Nine Events of Instruction, the framework was used to establish how their teaching activities related to Gagne's Nine Events of Instruction.

Research Questions

This research is intended to establish the type of social media applications used by instructors and how they specifically use them for the purpose of instruction. The study has two major questions that address the use of social media by instructors:

1. What are the social media applications being used by instructors in the teaching and learning process?

2. How does instructors' use of social media relate to Gagne's Events of Instruction?

Summary

The field of social media has become ubiquitous and dynamic with many people using different types of social media for personal and professional purposes. The use of social media has trickled into the field of education. The use of social media has enable learners to become producer rather than consumers of information. Although studies have shown that social media is used for personal and professional reasons, including communication and instruction, the specifics of how social media is used for instruction has not been clear. This study used both

4

qualitative and quantitative methods to fill-in the gaps by establishing types of social media used by instructors and how their usage relates to Gagne's Nine Events of Instruction. This study intended to contribute to the educational resources on the use of social media The study also revealed some of the concerns that teachers have about the use of social media for instruction. This study investigates the various knowledge and resources on the use of social media for instruction in universities which includes knowledge on how social media is used across academic department, university research levels, gender, and instructors teaching status in the university.

Further this study explores the various ingenious ways used by instructors to integrate social media into the teaching and learning process. The instructors who participated in this study provided resourceful ways of integrating social media to the instructional design which could be helpful to instructors aspiring to use social media for instruction. Knowing this will provide more ideas on how to creatively use social media for instruction. The fact that a large number of instructors and learners are use social media for communication, social and professional purpose does not imply that it is widely used for instruction. This study intended to establish what social media types, the instructors use and how they use it for instruction.

Chapter 2

Literature Review

This chapter reviews literature related to the use of social media and specifically addresses the definition of social media, the evolution of social media, and consumers and producers of social media. Additionally, different social media used by instructors and how they are used for instruction in relation to Gagne's Events of Instruction are also addressed. Gagne's Nine Events of Instruction are used as a framework to categorize the use of social media applications for instruction.

Defining Social Media

The term social media refers to the wide range of Internet-based and mobile services that allow users to participate in online exchanges, contribute user–created content, or join communities (Dewing, 2012). In this study social media refers to Internet-based applications used in social interactions that have highly accessible and scalable publishing methods that facilitate the sharing of ideas, content, thoughts and relationships online (Morgan, Jones, & Hodges 2012).

The social media applications include:

1. Blogs. A truncation of the expression weblog (Blood, 2000). Some of the blogs include WordPress, Blogger, Tumblr.

2. Wiki. A website that can be modified or contributed to by users (Dennis, 2014). They are easy to use, asynchronous, Web-based collaborative hypertext authoring systems. Examples include Wikipedia, Wikimedia Common.

3. Social networking sites. These are websites that allow subscribers to interact, typically by requesting that others add them to their visible list of contacts, by forming or joining sub-groups based around shared interests, or publishing content so that a specified group of

subscribers can access it (Dictionary.com, 2012). Some examples include Facebook, Twitter, Myspace.

4. Social Bookmarking. This is a centralized online service that enables users to add, annotate, edit, and share bookmarks of web documents (Wikipedia, 2016). Some examples include, Pinterest, Reddit, Digg, Diigo and Google Bookmarks.

5. Media-sharing sites which include YouTube, Instagram, and Flickr.

6. Virtual worlds. These sites offer game-like virtual environments in which users interact. Examples include Second Life (Dewing, 2012).

The Evolution of Social Media

Kaplan and Haenlein (2010) pointed out that social media as we know it started thirty-five years ago in 1979 with Tom Truscott and Jim Elis from Duke University when they created Usenet. This was a worldwide discussion system that allowed internet users to post public messages. Bruce and Susan Abelson then founded the "Open Diary," an early social networking site that brought together online diary writers in one community. The word "weblog" was first used and truncated as "blog" a year later. The internet became more prevalent in the 1990s with the availability of broadband which allowed users to upload and download content with ease. The first social network site SixDegrees.com appeared in 1997 and lasted till 2001. Six degrees.com allowed users to list friends, family members and acquaintances who sent messages to each other (Dewing, 2012).

Social media sites continued to develop between 1997 and 2001 sites such as AsianAvenue, BlackPlanet, and MiGente allowed users to create personal, professional, and dating profiles (Boyd & Ellison, 2008). In addition, sites such as Blogger, Epinions, ThirdVoice and Napster were established. Epinion allowed consumers to read or review products while

Napster allowed peer-to-peer file sharing (Edosomwan, Prakasan, Kouame, Watson, & Seymour, 2011). Oher social networking sites such as MySpace (2003) and Facebook (2004) ensued. Social media applications can be integrated into instruction to support learning and provide effective channels for content delivery in both synchronous and asynchronous learning environments (Baird & Fisher, 2006).

Producers Vs Consumers of social media

The rise of social media applications is related to the development of Web 2.0 a phrase coined by Darcy DiNucci (Prandini & Ramilli, Raising Risk Awareness on the Adoption of Web 2.0 Technologies in Decision Making Processes, 2012). Web 2.0 describes the World Wide Web sites that emphasize user-generated content, usability and interoperability (Wikipedia, Web 2.0, 2016). Instead of merely reading on internet sites and watching television, this social media allows users to comment and give feedback. According to Kaplan and Haenlein (2010), while Web 2.0 represents the ideological and technological foundation, User Generated Content (UGC) entails ways people make use of social media. There has been little consensus about where 1.0 and 2.0 begins and that "Web 2.0 replaced the authoritative heft of traditional institution with the surging wisdom of crowds" (Fox & Madden, 2006). UGC refers to media content created by members of the general public and includes any form of online content created, initiated, circulated and consumed by users (Kim & Johnson, 2015).

Social media has created producers and consumers of social media. In the past, people passively watched television, listened to the radios, read newspapers and internet sites. Today, social media has turned the consumers of social media into producers, allowing people to share their views and exert their influence on what they watch or read. It has become a common feature to see an audience tweeting on live television news or posting feedback on live news

8

using Facebook. Social media has opened avenues where people provide political information and commentary, breaking the monopoly previously ascribed to few professionals (Bode, 2016).

Social media applications have been designed with the intention of sharing with the general public and tend to function as a platform for participation and debate, particularly within active producers and consumers who sometimes respond through posting comments (Orus et al., 2016). There is no fine line separating the consumers and the producers, it is a continuum (Kumar, 2014). Although there are fewer producers than consumers, most people who produce content tend to consume content. Producers are motivated by the response and feedback they get from the consumers.

Basic tools such as Adobe Flash, Really Simple Syndication (RSS), and AJAX (Asynchronous Java Script) have enabled platforms where content is no longer created by individuals, but allows users to modify it in a participatory and collaborative way (Kaplan & Haenlein, 2010). Wikipedia, has become an example of collaborative writing where social media consumers have turned into producers. In the past, people were limited to passive viewing of encyclopedia content written by few writers. Today, any person can create content in Wikipedia giving users the opportunity to become producers. Popular social media domains include blogs, wikis, web forum, social bookmarking sites, social networking sites such as Facebook and Twitter, and video and photo sharing sites such as Flickr and YouTube. These social media domains emphaze on the relationships among the users of the community (Agichtein et al., 2008).

Social media tools such as blogs, Wikis, and YouTube enable web user generated content that circumvents the high transaction cost that once characterized usage of media technologies (Meraz, 2009). This has encouraged social media consumers to become social media producers.

Social media users are now able to share information with each other on products and services they use. Consumers can obtain reviews on any service or product with a few clicks in the Internet, allowing them to make informed purchasing decisions (MacKinnonn, 2012). Blogging has made it possible for users to write content without much preparation and publishing expenses and have other users comment and give feedback something could not be easily accomplished in the past. Today, any person can write a blog and get consumers willing to read thus encouraging people to become producers of content. Blogs are popularly viewed as a form of social media that is intended by design to support participation, peer-to-peer conversation, collaboration and community (Gillmor, 2004).

YouTube has not only created consumers of social media, but has also created an opportunity for users to share their videos and have people comment. By uploading a video to YouTube, one has already assumed the role a producer. When users watch a video in YouTube, they assume the role of consumers, however, if they comment or share the video, they become producers. YouTube has made it possible for anyone to become a producer by creating a channel in YouTube, where subscribers can watch, share, critique and comment. YouTube has facilitated in the creation the amateur culture in which ordinary citizens can upload videos to be viewed by millions (Jones & Cuthrell, 2011). Research has indicated that YouTube offers an effective platform for the development of learner generated activities (Orus et al., 2016). Citizens are creating their own videos and actively sharing them in YouTube, some which go viral and are viewed by millions. News organizations are taking advantage of citizen content by incorporating it into their journalism (Pew Research Center, 2012). Consumers, according to Pew Research Center, seem to embrace the interplay in what they watch and share, creating a new kind of television news.

YouTube has been used for educational purposes as a pedagogic resource for everything from newsworthy events to videos used to teach English as a second language (Duffy, Engaging the YouTube Google-Eyed Generation: Strategies for Using Web 2.0 in Teaching and Learning, 2008). YouTube has created producers who upload and share video and consumers who sometime comment and share the videos in the learning environment.

Through social media, instructors have designed instructional activities in a way that has created producers and consumers of content. They can have their learners act as consumers of the media by providing them with feedback on their performance in the course without requiring the students to actually create content (Velasquez, 2012). In some instances, the instructor has required learners to complete collaborative projects using wikis. This has encouraged learners to become producers (Chao & Parker, 2007).

Instructors may also ask their learners to consume the media and then provide comments, or they may require their learners to engage in some level of creation of the media. Likewise, faculty may use social media as part of individual assignments, where each student is required to act on his/her own, or complete group assignments where learners are expected to work together (Seaman & Tinti-Kane, 2013).

Social Media for Communication

Social media is widely used for educational communication that goes beyond classroom instruction. A study by Barnes & Lescault (2011) shows that 100% of responding colleges and universities use social media for student recruiting, student communications, and alumni and public outreach. Higher education institutions are also adopting best practices for using social media as a communications tool in times of crisis to provide consistent and timely information

11

and updates to students, faculty, alumni, parents, visitors, and the media which often use the very public channel as a reporting reference. (Morris, 2012)

According to (Butler, 2010) the Houston Independent School superintendent pointed out that he uses Twitter to give updates on his meetings with staff and media interviews, link to interesting educational news, and share important issues and facts about the district. He does this not because he likes using Twitter but due to the fact that it helps communicate what he is about as an instructional and administrative leader. These clearly demonstrate the power of social media in communication in the contemporary schools where the general population has embraced social media to get their updates and messages within seconds.

Social Media and Learning

A survey carried out by Morgan, Seaman and Tinti-Kane (2011) revealed that 90 % of faculty use social media either for professional purpose or in their classes or both. According to Babson Survey Research group (2014), 64.4% of faculty use social media for their personal lives while 33.8% use it for teaching (Allen & Seaman, 2014). Nearly two thirds of all teaching faculty have used social media during class and 30% have posted content for students to view outside class.

About 80% of faculty report using social media for some aspect of a course they are teaching (Morgan, Seaman, & Tinti-Kane, 2011). For example, 40% of faculty have assigned students to read or view social media as part of a course assignment while 20% have assigned students to comment on or post to social media sites. According to the Babson Survey Research Group (2013), 41% of instructors reported using social media in their classes monthly or more frequently. The study also revealed that blogs and wikis were the most frequently used social media for individual and group assignments for teaching in both 2012 and 2013 (Seaman &

Tinti-Kane.2013). Seaman & Tinti-Kane (2013) also established that instructors in the

Humanities and Arts, Professional and Applied Sciences use social media for teaching purposes

at higher rate than those in Natural Sciences or Mathematics and Computer Science. They also

noted that this difference has narrowed considerably over the past years as faculty in the Natural

Sciences or Mathematics and Computer Science have shown the greatest degree of year to year

growth of about 12% and 8% respectively (Allen & Seaman, 2014). Schroeder, Minocha, and

Schneider (2010) note that incorporating social media applications to the learning and teaching

process has the potential to elicit significant educational innovations and facilitate new forms of

interactive and collaborative learning. As pointed out by Nickolas and Abe (2013), the majority

of students' perceptions regarding the use of social media in the classroom are favorable.

Similarly, faculty members are conversant with the diverse types of social media and how they

may be used in the classroom. The results of a study carried out by Ajjan and Hartshorne (2008)

provide evidence that most faculty feel that integrating social media technologies into the

classroom learning environment can be effective at increasing students' satisfaction with the

course, improving their learning and their writing ability, and increasing student interaction with

other students and faculty. This shifts the students' role from passive to active learners and

allows them to better create and retain knowledge.

One of the benefits that emerges from the use of social media is engagement. A study

carried out by Junco, Heiberger, and Loken (2011), established that students were highly

engaged using Twitter in their learning in a way that transcended traditional classroom activities.

The results revealed that the experimental group had a significantly greater increase in

engagement than the control group as well as higher semester grade point averages.

In order to develop learning communities with increased engagement, educators are increasingly adopting the use of social media to supplement teaching and learning in both fully online as well as traditional classroom learning environments (Buzzetto-More, 2012). Studies have revealed that social networking enhances social presence in the online learning environment by encouraging a free flow of synchronous interactions. Social presence according to Cobb (2009) was perceived as being the key influential component of a quality online learning experience from the students' perspective. A study carried out by Dunlap and Lowenthal (2009) demonstrated how Twitter encouraged free flowing and synchronous social connections and interactions and how it enhanced social presence in the learning environment.

Social media has other benefits that complement aspects of constructivism if accompanied by essential pedagogy (Discipio, 2008). A study by Heafner and Friedman (2008) established that the use of wikis facilitated a pedagogical shift from traditional teacher centered instructional approach to student oriented constructivist learning, which resulted in increased student self-efficacy and motivation. According to Seaman and Tinti-Kane (2013), blogs and wikis were the most used social media for teaching in both 2012 and 2013. These social media applications require students to engage in learning rather than become mere consumers of knowledge. Their findings revealed that faculty require students to create content for blogs and wikis more than they ask them to comment or to merely read or consume. Creation rather than consumption of content appeals to constructivist learning. Social media applications enable learners to exchange ideas and share experiences leading to ideal forums for social constructivist learning (Wang & Hsua, 2008)

The use of social media applications for the purpose of instruction is known to increase the level of student motivation in learning. Trajtemberg and Yiakoumetti (2011) expressed the

fact that blogs assist in motivating learners to use language for a real communicative purpose and to write in English in ways that they have not previously experienced. Self-expression, self-evaluation, and a sense of language progress are promoted when students interact in a collaborative space.

However, Seaman and Tinti-Kane (2013) pointed out concerns about privacy for both themselves and their students is one of the major factors deterring most instructors from using social media for instruction. They also found out that the integrity of student submissions is also another factor of great concern. Unless these issues are resolved, the adoption and use of social media applications will proceed at a languid pace. More than 70 % of faculty viewed student submission integrity as the largest obstacle to social media use in teaching (Tinti-Kane, 2013).

Bloom's Taxonomy

Both Gagne's theory of instruction and Bloom's taxonomy emphasize the importance of learning objectives. Bloom's Taxonomy was revised to Bloom's digital taxonomy to make the learning objectives relevant to emerging technologies. This revision to Bloom's Digital Taxonomy has become relevant in designing learning outcomes for the social media applications used for the purpose of learning.

The revision of Bloom's Taxonomy into Bloom's Digital Taxonomy involved the rearranging of the sequence within the Taxonomy and using verbs rather than categories. The emphasis in this revision has moved from instructional objectives, which define what instructors do and the content of material presented during instruction, to student learning outcomes that describe what students can do as a result of their educational experience (CUTLA, 2013). Social media technologies have provided more complex levels of educational objectives and they have

implications for designing instruction for a variety of learning outcomes (Aworuwa & Nkoge, 2007).

Bosman and Zagenczyk (2011) demonstrated that Bloom's Taxonomy can be applied to social media in order to achieve learning outcomes. They gave an example of how Bookmarking can be used to remember and organize online resources. This social collaboration tool also allowed groups to meet, discuss, mark-up and analyze information in one specified playground. Research by Ladyshewsky and Gardner (2008) on a doctoral level course using social media tools was evaluated using Bloom's Digital Taxonomy level, revealing that the level of learning was higher when students used social media tools.

Instructors design learning outcomes based on the Taxonomy because it offers a straightforward way to align particular learner actions to the various levels of the domains (Sylvia, 2014). The revised Bloom's Digital Taxonomy makes it easy to state outcomes using the revised verb rather than the category.

Bloom's Taxonomy focuses more on learning outcomes and it is learner oriented as opposed to Gagne's Events of Instruction which focuses on instructional design and hence instructor oriented. Consequently, Gagne's Nine Events of Instruction was used as a framework to explore the study.

Bloom and Gagne believed that it was important to break down human learned capabilities into domains (Micheal & Cunningham, 1996). In contrast Bloom's Taxonomy stresses the measurable outcomes in assessing the effectiveness of the learning process and tends to be learner oriented while Gagne's events of instruction emphases on instructional design and is instructor centered. Since this study focused on how the instructor designs their instruction, Gagne's Nine Events of Instruction was used with the purpose of exploring the use of social

media by instructors. Although the instructor may not have intentionally planned or designed their instructional activities using Gagne's Nine Events of Instruction, the framework was used to establish how their teaching activities related to Gagne's Nine Events of Instruction.

Gagne's Theory of Instructional Design and Social Media

Gagne (1965) proposed nine events of instruction that provided a framework for the organization of instruction. He defined instruction as a set of deliberately planned external events where learners control their own internal learning processes (Martin, Klein, & Sullivan, 2004)

Gagne's instructional theory has three major elements. First it is based on a taxonomy, or classification, of learning outcomes. Second, it proposes particular internal and external conditions necessary for achieving these learning outcomes. And third, it offers nine events of instruction, which serve as a template for developing and delivering a unit of instruction (Recker, 1999).

Gagne's model is based upon the information-processing model of mental events that occur when adults are presented with various stimuli. It highlights nine specific instructional events that correlate with crucial conditions of learning, and are arranged to maximally enhance the learning process, improve session flow and ultimately, ensure lesson objectives are comprehensively addressed (Buscombe, 2013).Gagne thought it was important for teachers and instructional designers to think carefully about the nature of the skill and task they wanted to teach, then to make sure that learners had the necessary prerequisites to acquire that skill (Recker, 1999).

The events become a framework for a series of steps for delivering instruction (Cunningham, 1996) and form a useful strategy to investigate how college instructors use social media instructionally as depicted in Figure 1.

17
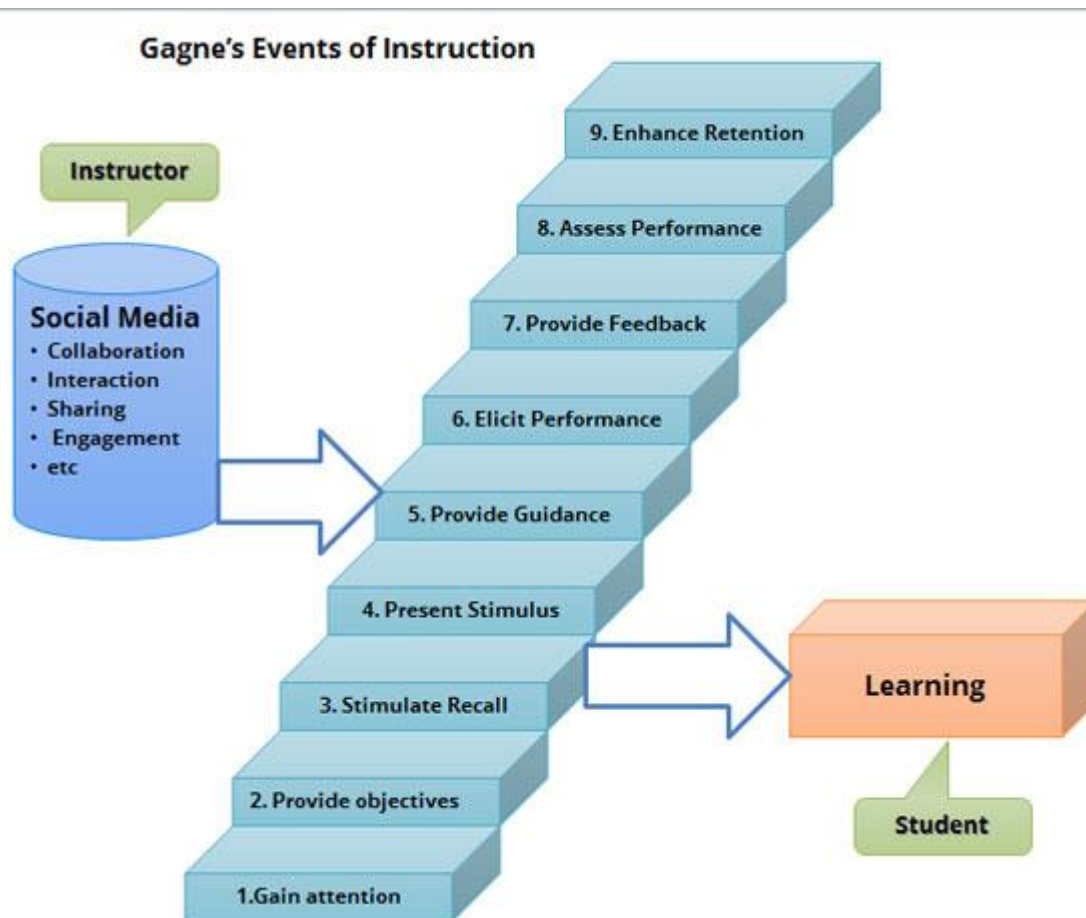
Figure 1: Gagne's Events of Instruction and Social Media

Gaining Attention

Gaining attention is the first of Gagne's nine events which involves presenting a new situation to grab learner attention. This could be effectively achieved using Flickr. A study by Angus, Stuart and Thelwall (2010) on tagging images in Flickr established that Flickr can be used for subject specific images in some subject areas. Flickr can be used to set induction for the purpose of gaining learner's attention. It can also be used as a way of finding out how much the learners know by requiring the learners to post questions to be answered by other learners through sharing of and commenting on images. Flickr is also convenient because its ease-of-use allows learners to keep their focus on acquiring new skills and build on existing knowledge

while at the same time developing writing skills (Baird & Fisher, 2006). The use of YouTube is an effective way of gaining student attention through setting induction (Whitaker, Orman, & Yarbrough, 2014).

Provide Objectives

Informing learners of objectives is the second event and that allows learners to organize their thoughts around what they will learn or perform and helps to build up expectancy. Gagne (1965) requires the instructor to determine the objectives of the instruction stating each objective in performance terms using standard verbs associated with the particular learning outcomes. Gagne stressed the importance of knowing the kind of outcomes in a unit of instruction, because different strategies are essential to stimulate mastery of various outcomes. In order to plan social media instruction, the learning goals should be classified by learning outcomes (Morgan P. , 2009). By making the objectives known to the learners, the instructor is able to build expectation in the learners by helping them prioritize the large amount of information covered in the class by remembering key concepts in relation to future class activities (Zhu & St.Amant, 2010)

Stimulate Recall

Stimulating recall, the third event, helps learners make sense of new information by reminding them of prior knowledge. Retrieval enhancing learning by retrieval-specific mechanism rather than elaborate study processes is an effective tool to promote conceptual learning (Karpicke & Janell, 2011). Furthermore, stimulating recall leads to scaffolding which is one of the principles of effective instruction that enables teachers to accommodate individual student needs (Larkin, 2002). YouTube is no longer a place for entertainment alone but can be used for effective learning which includes retrieval of prior learned information (Fralinger & Owen, 2009)

Present Stimulus

The fouth event is where new content is actually presented to the learner. Content should be organized meaningfully, and explained and demonstrated using a variety of media (Khadjooi, Rostami, & Ishaq, 2011). Google Docs, Wikis, and Blogs are web-based collaborative authoring tools designed to help authors create and present content (Bernick & Palazzolo, 2007). YouTube is increasingly used by educators to present content for everything from newsworthy events from around the world to "slice-of-life" videos used to teach students within and ESL (English as a second language) course (Duffy, Engaging the YouTube Google-Eyed Generation: Strategies for Using Web 2.0 in Teaching and Learning, 2008)

Social media applications are used in different ways to present and cue lesson content to provide effective and efficient instruction. This is the selective perception stage and entails organizing and chunking content in a meaningful way providing explanation (Clark, 2013).

Collaborative Activities

Collaborative learning is based on the view that knowledge is a social construct and can be accomplished using social media applications where learners work together in groups. Research shows that educational experiences that are active, social, engaging and student owned lead to deeper learning.

Google Docs, a free web-based version of Microsoft Word, offers collaborative features which can be used to facilitate collaborative writing (Suwantrathip & Wichadee, 2014). A study carried out by Zhou, Simpson and Domizi (2012) showed that Google Docs can be used successfully for instructional purposes through collaborative writing. Students listened to a fifteen minute presentation and were divided into groups. They were required to write a

collaborative report and then evaluate each other. In this case, the learners were provided with the objectives and guidance and were expected to write a collaborative report.

In another study by Suwantrathip and Wichadee (2014) on collaborative writing students in the Google Docs group earned a higher mean score than those working in groups in a face to face classroom. In addition, students reported that they had positive attitudes towards collaborative writing activities and high collaboration in their groups using Google Docs, while nearly all of them perceived that the learning tool was easy to use.

Blogging. Blogging has the potential to be a transformational technology for teaching and learning (Williams & Jacobs, 2004). According to a study carried out by Purcell, Buchanan, and Friedrich (2013), social media tools make the teaching of writing easier, particularly the collaborative online platforms that allow learner to work alongside each other in the editing process as they observe the thinking and working progress. This is beneficial to learning since it activates student processing to help them internalize learned writing skills.

Peer Feedback. Feedback is vital in all learning contexts and is part of effective learning. It helps students understand the subject being studied and gives them clear guidance on how to improve their learning (Race, 2001). In one of the examples drawn from Shih (2013), the students were divided into three groups. There were four writing assignments posted on each group's Facebook site for students to complete, make comments, and give feedback on each other's work. The materials for the assignment were the most important vocabulary, or professional terminology and phrases, related to business communication taught in the session. The instructor acted as the facilitator to guide and check the group members' comments. Findings revealed that students learned English for Business Communication effectively through cooperative learning, which was achieved through the use of Facebook.

21

Instagram is an online photo sharing and social networking service. It enables users to take pictures and apply digital filters to them and then share them on social networking sites with over 100 million users (Wikipedia, Instagram, 2014). Instagram can be used to help students learn through the instructor uploading pictures and requiring the students to make observations or provide specific feedback (Phillips, 2013).

In another example on how Instagram can be used, Salomon (2013) explained how Instagram was used to reinforce the concept learned through feedback. Pictures of surgical tools were taken from the library exhibition of medical artifacts from the Civil War. The ninety five followers were able to share their feedback with each other making learning livelier.

A study conducted by Su and Beaumont (2010) provided evidence that Wikis are very effective social media tools that promote effective collaborative learning and peer assessment by facilitating rapid feedback, vicarious learning through observing others' contributions and easy navigation and tracking features. Carringan (2013) pointed out that Wikis can be used to increase student knowledge through peer feedback and collaboration. Carringan also found the Wikis are appropriate for educators who want to enhance the affective domain of learning also referred to as attitude in Gagne's categories of learning outcomes.

Provide guidance

Event five is the semantic encoding stage in Gagne's Nine Events of Instruction and involves providing coaching on how to learn the new skill. This is where the instructor demonstrates so the learners can see how something is done. Sherer and Shea (2011) have pointed out that with clear instruction YouTube can be used to provide guidance creatively. They provide an example where learners were required to watch or listen to assigned online videos or clips of speeches, plays, professional development or conference presentations and then respond

to questions provided by the instructor by posting their responses on discussion boards. The students could also search for videos on a given chapter or course topic and write a brief analysis or respond to questions.

In order to effectively use social media applications for learning, the instructor has to post clear guidance and instructions. Instructors can use social media applications such as Twitter feeds as part of ongoing class discussions to give instant guidance where needed and to respond to questions on the clarity of instructions (Mercer, 2011).

Certain social media applications such as blogs can be used to give guidance or instructions on class requirements, post handouts, notices, and homework assignments (Glencoe, 2006).

Elicit performance

Eliciting performance, event six, entails allowing learners to practice or do something with the newly acquired knowledge and skill. Social media applications can be used effectively in this learning stage, also referred to as practice or response.

Problem-Based Learning (PBL). Problem-based learning (PBL) is one way of eliciting (Larmer, 2014) . It is a student-centered pedagogy in which students learn about a subject through the experience of problem solving. YouTube has been used in the past to provide learning guidance through modeling. YouTube is a website that invites people to create and upload their own videos and to view, share, and comment on the contributions of others and can be used as a cognitive strategy to help learner develop techniques of problem solving. Stochlmann (2012) demonstrates how YouTube can be used with mathematical modeling activities to improve the teaching of mathematics by engaging students in realistic mathematical problem solving. In this case, students watched a short video on a safe driving campaign from

the United Kingdom about the possible consequence of a longer stopping distance. Before going to the class, the students would answered questions on the video. They also discussed the question before working on the problem. Students worked in small groups and then shared their idea with the whole class. Finally, students were given the opportunity to revise their solution and fill out a reflection form to help them process the mathematics they used and evaluate how well they worked in a group.

Group discussions. As a way of enhancing discussions, DiVall and Kirwin (2012) described a case where Facebook was used as a platform for assignments to facilitate the sharing of ideas through discussions. They described how students in a geriatric pharmacotherapy course used a closed group Facebook page to participate in weekly discussions. The students thought the application was easy to use and the assignment added value to the course.

Twitter has been used to provide stimulus through discussions (Szapkiw & Szapkiw, 2011). During instruction the teacher projected live Twitter feed on a screen. The students were encouraged to tweet in questions, thoughts, links, and photos related to the material throughout the class period. This promoted collaboration with the instructor and student. This gaves students a chance to stay engaged with the content and contribute to the learning of one another.

Learners have been required to use social media applications such as wikis and blogs to respond to assignments. The use of a wiki supports collaborative learning by requiring learners to respond collectively to assignments (Parker & Chao, 2007). Payne (2009) has demonstrated the how Wikis can been used to complete written assignments through group collaboration.

Bookmarking is another tool that has been used to elicit performance. A social bookmarking service is a centralized online service which enables users to add, annotate, edit, and share bookmarks of web documents (Wikipedia, 2014). Social bookmarking applications

such as Furl, Yahoo! MyWeb 2.0, BlinkList, del.icio.us and Diigo are based on social networking, tags, folksonomies, and collaborative knowledge sharing (Baird & Fisher, 2006). Ruffini (2011) gives an example where students were required to elicit performance through identifying and sharing news articles, videos, blogs and podcasts on the internet by using Diigo. The students were also required to identify themes and share them in a class.

Provide feedback

Event seven is important for learners to know how well they are doing as they learn. This is because the knowledge that they are doing well gives them a sense of achievement which motivates them to learn more (Ip, 2005). Whether feedback is just there to be grasped or provided by another person, helpful feedback is goal referenced, tangible and transparent, actionable, user friendly, timely, ongoing and consistent (Wiggins, 2012).

Social media applications enable instant communication, therefore allowing timely feedback where there is a need. According to a study conducted by Guy (2012), 48% of instructors used social media tools for swiftness in conveying feedback. A study conducted by Ebner, Lienhardt, Rohs, and Meyer (2010) revealed that microblogging supports process-oriented learning by a constant information flow between student to student and student to instructor feedback. Students receive immediate feedback to their questions and ideas from their instructors which serves to reinforce the relevance of Twitter participation (Dunlap & Lowenthal, 2009).

Feedback and reflection through blogs are integrated in the form of reflective conversations between teachers and learners and both teachers and learners benefit from the reflective practice (Yang, 2009). Peer feedback, reflective journal writing, and reading reinforces the skill and knowledge that is learned. Social media used within the academic setting

25

not only increases students' GPA, but also facilitates peer feedback on assignments and thoughtful student reflections on course content because of the ability for students to openly communicate with each other and develop strong relationships among peers (Ebner, Leinhardt, Rohs, & Meyer, 2010).

Assess Performance

Assessing performance, event eight, is Gagne's event that falls into the correct retrieval learning stage. Assessment of social media, as with any other teaching strategies, is paramount and is necessary in order to gauge its effectiveness. The purpose of assessing the effectiveness of a teaching strategy is to look back at what instructors have done, how they did it, and the impact it has had (Mitchell, 1997). It entails scrutinizing teaching progress and development and considering solutions. It also includes getting feedback on the efficiency and effectiveness of the teaching strategy and examining one's own performance and identifying what is needed and why.

Assessment of the effectiveness of social media helps determine whether or not the idea worked. It helps collect feedback from the learners who participate to find out how much they learned. Using effective assessment techniques can improve an instructor's understanding of students' needs and support learner-centered classrooms (Vonderwell & Boboc 2013). Assessment of social media outcomes entails a description of a learning outcome by a single verb, focus of a learning outcome on the student, conformity of a learning outcome with its purpose, correlation among learning outcomes, and relationship between a learning outcome and assessment to be achieved (Savickiene, 2010).

Assessments, learning objectives, and instructional strategies need to be closely aligned so that they can reinforce one another (Carnegie Mellon University, 2014). The following figure depicts this alignment.
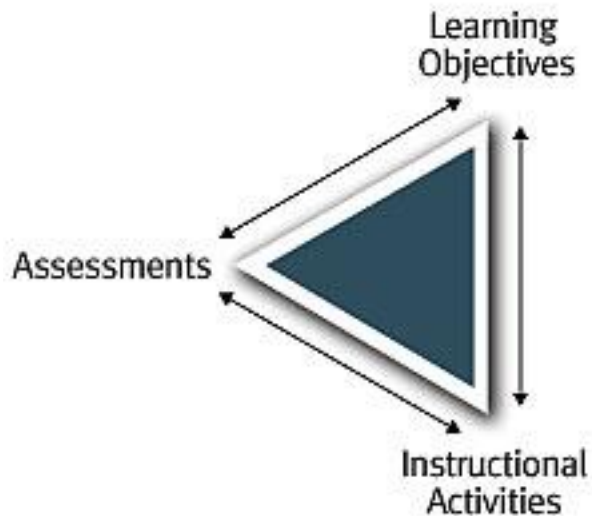

Figure 2: Component Alignment (from CMU 2014)

According to Carnegie Mellon University (2014), to ensure the three components are aligned a few questions should be asked:

- *Learning objectives:* What do I want students to know how to do when they leave this course?

- *Instructional Activities:* What kinds of activities in and out of class will reinforce my learning objectives and prepare students for assessments?

- *Assessments:* What kinds of tasks will reveal whether students have achieved the learning objectives I have identified?

Effective learning assessment aims at empowering students in the development of advanced assessment capabilities, on the basis of applying self-assessment and collaborative (e.g. peer-to-peer) assessment procedures between students (Torres, Dodero, & Aedo, 2012).

However, a study carried out on how instructors assess social media applications by Chen and Bryer (2012) revealed that most participants did not have an assessment strategy specifically designed for using social media. They felt that social learning should be optional. They also found out that most instructors did not use the conventional fixed criteria assessments, such as test and quizzes. Instead, they integrated social media to supplement teaching.

According to Lemke and Michalchik (2012), assessment of informal learning activities in social media needs to be specific to the goals. Each project and activity should provide information and interpretation that is useful to the instructors in determining their changing strengths and weaknesses to improve their teaching effectiveness and determine whether the goals are being achieved.

Instructors implement different means of assessing the effectiveness of social media that is used to facilitate learning. In a study by Yang and Chang (2012), the instructors were tracking the number of posts from students and the number of times they viewed the content pages. The grading was done based on the quality of comments, effort made to compose the comments and practical conceptuality. The blog history also tracked the viewing history for each post in terms of page views, time pages were visited and visitor's address.

Some instructors use rubrics to assess social media activities in learning. According to Franz (2012), instructors used rubrics to assess YouTube activity in one instructional activity where students were learning organic chemistry concepts. Students proceeded to make YouTube videos based on the written assignment. Subsequent details and feedback about the assignment were also presented to the learners. To ensure consistency during grading, teaching assistants were given an enhanced rubric to use for grading.

Peer assessment is seen as a powerful supporting tool to achieve scalability in the assessment of complex assignments in large courses (Vozniuk, Holzer, & Gillet, 2014). In a study on the use of the Wikis by Terard, Patokorpi, and Packalen, (2009), students edited essays and reviewed each other's work. They also realized that a perceived online audience plays a role in helping students monitor the quality of writing.

Questionnaires and interviews have been used by instructors to assess the effectiveness of social media instructional activities. Shane (2009) demonstrated that questionnaire and interviews can be used to assess the effectiveness of internet forums and found that students exhibited learning improvement over the course of the semester.

Instructors need to take both formative and summative assessments into consideration in order to measure student problem-solving performance, collaborative behaviors, and self-directed learning skills (Seo, Pellegrino, & Engelhard, 2012). Although summative evaluation is equally important, formative assessments of social media are useful and tend to increase aptitude and attention in planning, reduce student anxiety, give students an added sense of ownership in their development and promote the comprehension of the course content as pointed out by Cherem (2011). Assessments should provide frequent opportunity for feedback and revision, so that both teachers and students learn from the process (Fadel, Honey, & Pasnik, 2007).

Social media has functions that make sharing, reading, and collecting information easier through the click of a mouse, which enables formative assessment (Edutopia, 2014). The Edutopia, (2014) site gives an example where Twitter offers advanced search options like hashtags (#) followed by a word or phrase. This feature can be used to easily collect feedback.

Facebook and Google plus allow the creation of private groups and provide platforms that allows students to write longer posts where instructors and students give feedback. Each of

these platforms has a free polling tool that can be used for formative assessment (Edutopia, 2014).

In order to achieve learning outcomes through the use of social media, there is a need to plan the learning outcomes appropriately with the students in mind. Tay and Allen (2011), in their study on the use of social media in learning, concluded that the designing of the social interactions through social media tools is more important than the technologies themselves.

The use of social media in learning has made learning more collaborative and interactive, targeting a wider community. This has heightened the complexity of assessing the learning outcomes (Aworuwa & Nkoge, 2007). According to Fadel, Honey, and Pasnik, (2007), twenty-first century learning is about the process of integrating and using knowledge, not just the acquisition of facts and procedures. They propose that assessment should be performance based with the students applying content knowledge to critical thinking, problem solving and analytical tasks. Additionally, assessments should reveal the kinds of conceptual strategies a student uses to solve a problem and should be an ongoing process that is well-aligned to the target concepts, or core ideas, reflected in the standards.

Assessment, learning outcomes and the use of social media need to be closely aligned so as to reinforce each other (Carnegie Mellon University, 2014). , there is a strong relationship between the learning process and learning outcomes (Ma, 2008). The learning process determines the achievement of learning outcomes. Assessing the efficacy of the social media used is a key feature in complementing the concept of alignment that ensures that the learning outcomes, instruction and assessment are consistent with one another (Jideani & Jideani, 2012).

Enhance Retention

The final even is aiding in the retention and transfer of learning. This event requires the learner to generalize learning. Lowe and Laffey (2011) describe how Twitter's unique characteristics were used to enhance and facilitate marketing concepts and on the other hand illustrating marketers' use of innovative technologies. This is an example of using Gagne's instructional event on enhancing retension and transfer to other context and provides practice to generalize capability. According to Ayadin (2012), Facebook can be a valuable educational environment that help the learners apply their knowledge on culture through sharing their experiences.

Blogs can be used for the purpose of application of the knowledge learned. Learners use blogs to write in the context of the knowledge learned with the help from feedback provided by their peer and the instructors (Higdon & Topaz, 2009).

Summary

This literature review addressed on the definition of social media and various types of social media applications. It also explored the evolution of social media, Web 2.0, producers and consumers of social media. Additionally, this literature review explore the importance of social media for learning and Blooms Taxonomy which emphasizes on learning outcomes. Gagne's Nine Events of Instruction are used as a framework because it emphasizes instructional design to explore the type of social media applications used by instructors. The field of social media for instruction is relatively new with little literature and research undertaken. This literature review gave an insight on the use of social media in relation to the Gagne's Nine Events in preparation for data collection and analysis.

Chapter 3

Methodology

This study centered on two key questions that involve the use of social media by instructors in higher education. The research used both quantitative and qualitative methods to address the research problem.

This study addressed two research questions:

1. What are the social media applications being used by instructors in the teaching and learning process?

2. How do instructors' use of social media relate to Gagne's Nine Events of Instruction?

Participants

The participants for this study were college instructors from universities classified as doctorate/research universities and "very high research activities" in the United States (Carnegie, 2013). Focus was given on the doctorate/research universities and research universities (high research activity) of the southeastern region of United States. This region is chosen for this study since it has well developed online, face to face and blended learning environments and hence a fair representation of most universities in United States.

The two sampling techniques used in this study included random cluster sampling, which was used to select universities where potential participants were contacted and purposeful criterion sampling, which was used to choose colleges/department in the selected institutions.

The random cluster sampling involves identifying or grouping the targeted population into subgroups and selecting participants for each subgroup with the assumption that each member of the group has a chance of being chosen (Patton, 2002). In this study a list of doctorate/research universities and very high universities will be obtained from the Carnegie
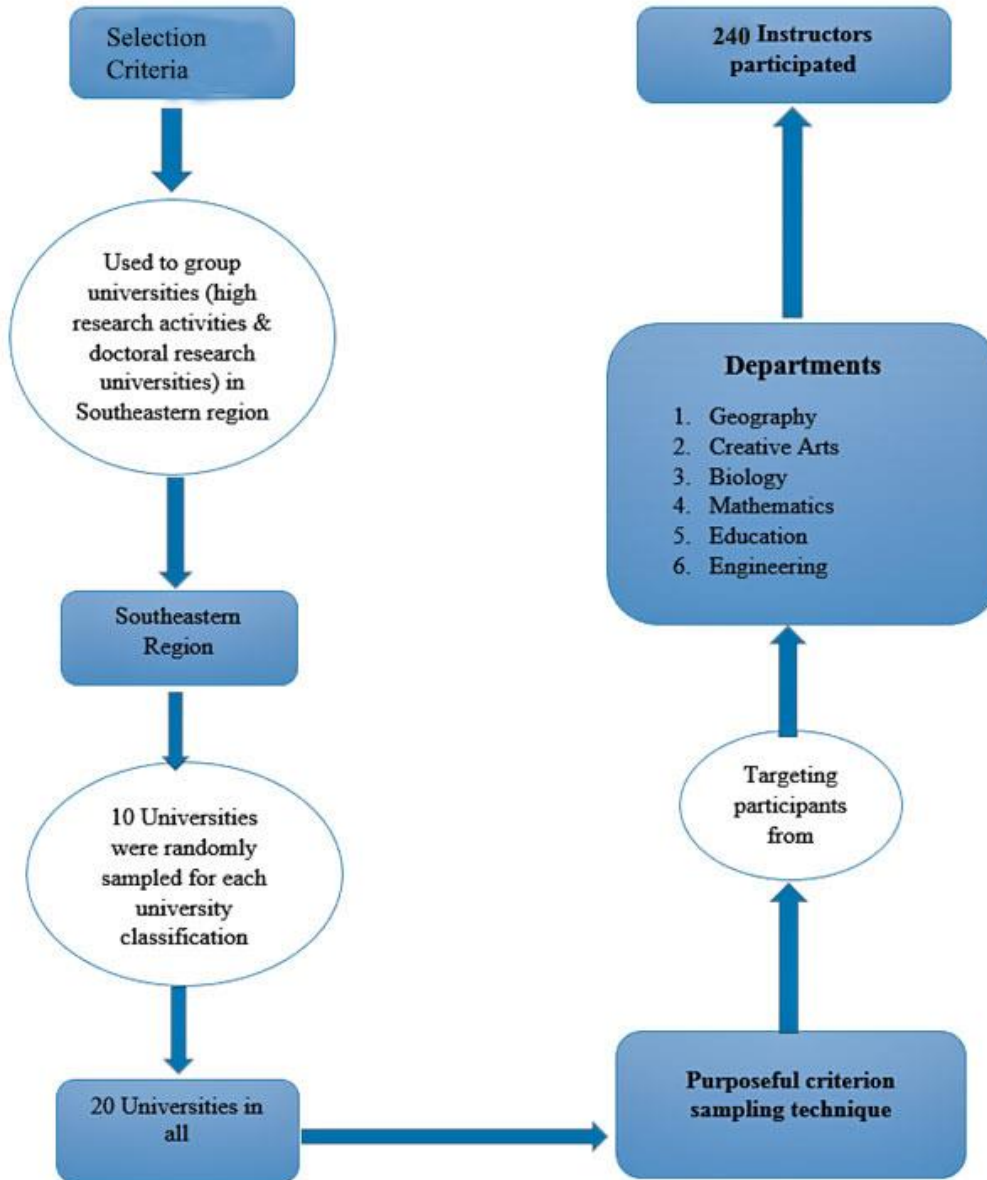
Foundation website.

Figure 3: How participants were selected

Purposeful criterion sampling is done by a condition or standard that potential participants should meet before they are allowed to participate in a research study (Patton, 2002). Sampling, was purposefully done in the Southeastern region in the research classification levels

and departments. One department was chosen from a list of six academic disciplines (NCES, 2002) to ensure that each discipline was represented (See Table 1).

Table 1: Academic disciplines and chosen Department

Academic discipline	Department
Social sciences	Geography
Humanities	Creative Arts
Natural Sciences	Biology
Formal Sciences	Mathematics
Professions	Education
Applied Sciences	Engineering

In order to get enough sample size that will represent the departments in both categories of the universities (doctorate/research universities and research universities), about 600 professors were targeted from 6 departments in 10 universities of each of the two classifications. This implies that at least 30 professors for each department in both doctorate/research universities and research universities (high research activity). In addition, my intention of targeting 600 participants was motivated by the need to generate rich data for future studies. However, I collected data from 240 professors/instructors after three polite reminders, yielding a 40% response rate. A response rate of 40% is considered sufficient (Keeter, Kennedy, Dimock, Best, & Craighill, 2006).

Instruments

The data collection instrument was a survey that contained both closed and open-ended questions that were designed for the purpose of collecting data for this study. The instrument was validated using a panel of experts who include three college professors and three instructional designers. This was to ensure that the questions were clear and valid for the research.

The survey (see Appendix A) had both structured and unstructured items that include a checklist in the form of a Likert-type scale. The sections also contain yes/no questions. The

34

unstructured question required the instructor to respond by adding a statement. They also had the option to add a statement that they perceived to be missing from the checklist.

Data was collected through the survey instrument, which was divided into three sections. The first section contains demographic questions designed to collect important information such as age, gender, number of teaching years, ethnicity and affiliated department. At the end of the demographic section was a Yes/No question requiring instructors to select "yes" if they have used social media and "no" if they have not used social media in the teaching process. Instructors who select "no" social media were redirected to a question with a list of concerns in Likert form requiring them to rate how much of a concern the statements were to them and then exited for the survey. The instructors who selected "Yes" proceeded to the next section.

The second section addressed on social media as used by the instructors within Gagne's instructional events. This section was designed into a matrix listing the events of instruction and the social media used. The matrix contained statements of teaching and learning events related to Gagne's events of instruction on the vertical left margin and a list of social media on the horizontal margin. The instructor selected each social media use for the teaching event. All social media type and event selected would populate a question requiring more information on how the social media was used for each instructional event selected.

The third section was comprised of a list of questions that collected information on the concerns of using social media. The section contained a matrix of the concerns and a Likert-type scale on the level of importance on the concerns (Not important, Somewhat importanat, Important and Very important). This was also followed by an open ended question on any other concern that may have been left out in the matrix.

An option was given to respondents who wanted to enter a $25 gift certificate and those who wanted a copy of results to provide contact emails. Emails provided for the gift certificate draw were separated from individual participants' survey responses.

Procedures

Institutional Review Board (IRB) approval was obtained after completing the procedure as stipulated by the board. Upon approval, a lists of departments from both high and doctoral research universities was compiled to help search for instructor's email addresses. The email addresses were obtained from the departments websites. The survey was sent through the Qualtrics web-based survey tool to the potential participants.

I expected that some colleges/departments might choose not to participate. In a situation where more than two colleges/departments in a selected institution decide not to take part in the study, I randomly selected another university to substitute it. I was cognizant of the low returns of online surveys. To address this, I highlighted the possible benefits of this study.

The data collection lasted for at least five weeks to give ample time for participation. Reminders were sent to ensure I got as much data as possible. Participants took 15 to 20 minutes to complete the survey. At the end of survey administration duration, I used SPSS to randomly select ten participants and contact them for their $25 gift card. In addition, after completing the survey, I provided the result of the study to participants who requested for it.

Chapter Summary

This chapter presented the methodology and procedure used for the study. The purpose of this study was to establish the types of social media applications used for instruction and how they relate to Gagne's Nine Events of Instruction. A survey was created using the Qualtrics application, validated and sent to the instructors after obtaining the IRB approval. About 240

instructors responded to the survey. The collected data was exported to Microsoft Excel and

SPSS. Analysis was done using both qualitative and quantitative methods.

Chapter 4.

Analysis of Data

This chapter is divided into two parts. The first part is quantitative and outlines frequencies and percentages related to the use of different types of social media across the instructor's demographic characteristics. The second part is qualitative with some quantitative information and provide results on the types of social media and how they are used in relation to Gagne's events of instruction.

Data Demographics

A total of 240 instructors completed the survey resulting in a 40% response rate Sixty-one percent of the male (n=147) instructors completed the survey compared to a slightly lower 38.8% of the female (n=93) instructors. Among the teaching faculty, 37.5% assistant professors responded using social media for instruction, this was followed by the associate professors (33.3%) and professors with 30.9%. There was a low social media usage for instruction among the lectures (0%), professor emeritus (25%) and visiting professors (20%).

Instructors were asked to designate their department affiliation. The results showed that most instructors were affiliated with Education (35%), while Geography (4.2%) had the lowest reported affiliation. White/Caucasian (75.4%) had the highest number of participants, followed by African-American or Black (12.5%), Asian (8.3%), Hispanic/Latino (2.5%), and 'Other' (1.3%) accordingly.

The respondents were ranks as assistant professors (30%), associate professors (26.7%); followed by professors (28.3%); Adjunct Professor (5.8%); Lecturer (2.9%); and Visiting Professor (2.1%) (See Table 2).

Table 2: Demographics of participants and their respective percentages

Characteristics		(N) N=240	(%)
Gender	Male	147	61.3
	Female	93	38.8
Age	34 - Below	32	13.3
	35 - 44	76	31.7
	45 - 54	54	22.5
	55 - Over	78	32.5
Ethnicity	White/Caucasian	181	75.4
	African American or Black	30	12.5
	Hispanic/Latino	6	2.5
	Asian	20	8.3
	Other (Please specify)	3	1.3
Departments	Geography	10	4.2
	Arts	45	18.8
	Biology	31	12.9
	Mathematics	21	8.8
	Education	84	35.0
	Engineering	49	20.4
Number of Years Taught	2 years or less	22	9.2
	3 -4 years	20	8.3
	5 - 6 years	11	4.6
	7 - 8 years	20	8.3
	9 years or longer	166	69.2
	Missing	1	.4
Teaching Status	Professor Emeritus/Emerita	4	1.7
	Professor	68	28.3
	Associate Professor	64	26.7
	Adjunct Professor	14	5.8
	Visiting Professor	5	2.1
	Lecturer	7	2.9
	Assistant Professor	72	30.0
	Others	5	2.1
	Missing	1	.4

Research Question 1: What are the social media applications being used by instructors in the teaching and learning process?
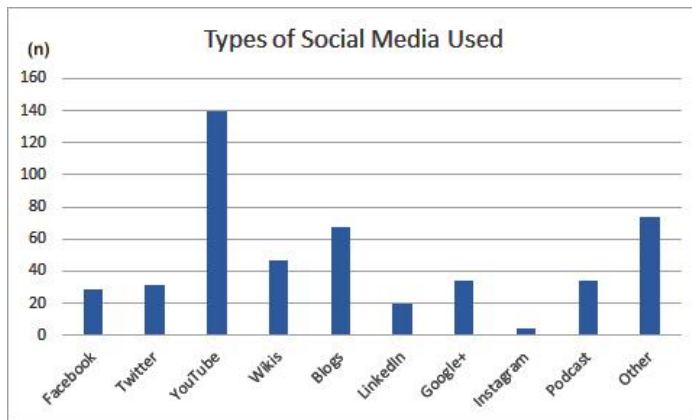

Table 3: Types of Social Media Used

Table 3 show the respondents selection of social media used for instruction in each Gagne's event. The participants' selection on the types of social media they used for instruction revealed that YouTube (n=140) was the most frequently used for instruction. This was followed by 'Others' (n= 74). Other in this case included; Canvas, Blackboard, TED Talk, GroupMe, and Peerwise. Blogs (n= 68), wikis (n=47), Podcast (n=34) follow accordingly. Twitter (n=31) and Facebook (n=29 which almost tie follow closely. LinkedIn (n=20) and Instagram (n=4) were the least frequently used.

Research Question 2: How does instructors' use of social media relate to Gagne's Events of Instruction?

Demographic Characteristics and Social Media Use

Understanding the demographic characteristics and social media use provides more insight on how social media was used.

Of the 240 participants who participated in the survey, 68.6 % (n=164) reported that they did not using social media for instruction while 31.4 % (n=75) responded that they used social

media in instruction. Figure 4 show the number and percentages of instructors who selected using r not using social media for instruction.

Looking at gender and social media use, 27.2% of the male participants used social media compared to only 38% of the female faculty. Chi-square test revealed that there was not significant difference in the use of social media across gender $x^2(2, N = 239) = 3.08, p < .05$.

Table 4: Gender and social media use

		Social Media Use				Total
		Yes		No		
		(n)	(%)	(n)	(%)	
Gender	Male	40	27.2	107	72.7	147
	Female	35	38	57	61.9	92
Total		75		164		239

A closer look at social media use by departments shows that the Arts department as having the highest number of participants using social media with 46.7 % followed by Geography (40%); Education (37 %,); and Biology (35.5%). Mathematics (4.8%) had the lowest number of instructors using social media followed by Engineering (14.3%).
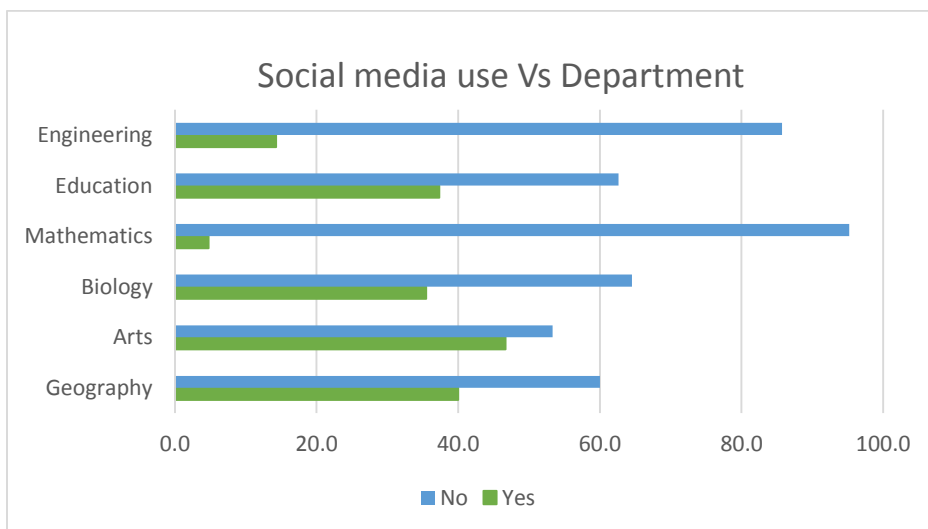

Figure 4:Social Media Vs Departments

According to data collected on social media use and age, the age group of $35 - 44$ had the highest number of participants with (38.2%) who used social media for instruction. This was followed by age group 55 - Over (36.4%). The age group 34-below had the lowest number of participants using social media followed by the 45-54 age group. See Table 5
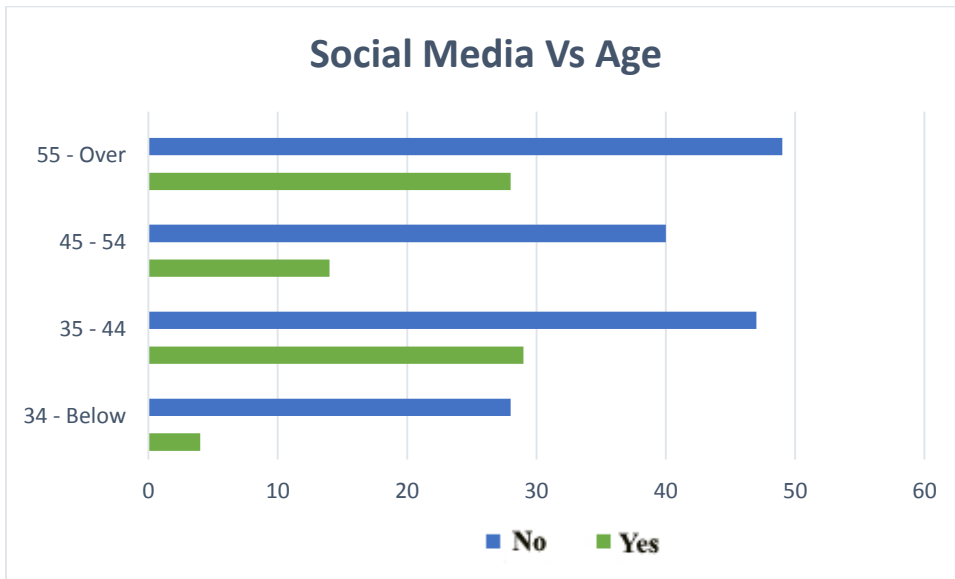

Figure 5: Social Media Vs Age

Although the categorization of universities into high research and doctoral research based on Carnegie classification of institutes of higher education (2013) was purely for the purpose of sampling data, it is noteworthy to briefly understand how many instructors used social media. Respondents in the high research category used social media more frequently with 36.2 % of participants compared to 24.8% in the doctoral research universities category (See Figure 6). Chi-square test revealed that there was not significant difference in the use of social media in the university research levels $x^2(2, N = 239) = 3.57, p < .05$.
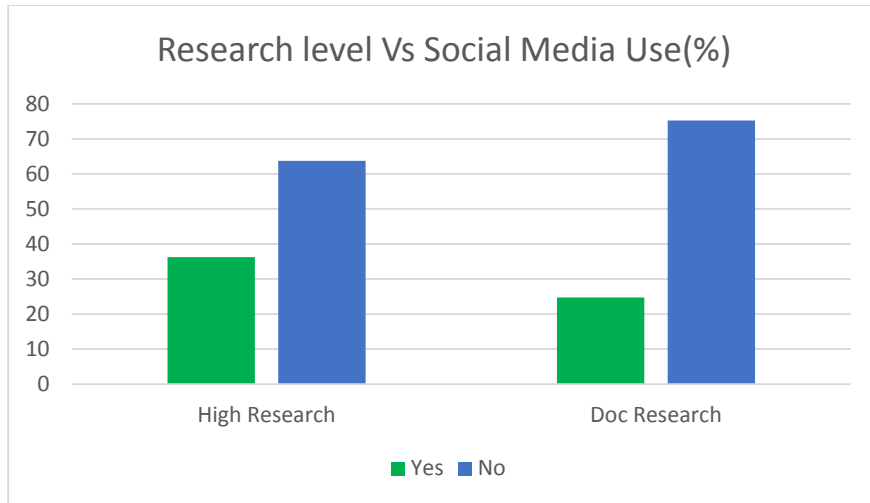
Figure 6: Research level Vs Social Media Use

The data shows that the use of social media by rank revealed a higher frequency of usage among

assistant professors (37.5%), associate professors (33.3%) and professors (30.9%, n=21). The

data shows a low frequency of usage among the adjunct professors (21.4%), professor emeritus

(21.4%), visiting professors (20%) and Lecturers (0%). See Table 5.

Table 5: Social Media Use Vs Instructor's Teaching

			Social media use				Total
			Yes		No		
			(n)	(%)	(n)	(%)	(n)
Media	Q5	Professor Emeritus/Emerita	1	25	3	75	4
		Professor	21	30.9	47	69.1	68
		Associate Professor	21	33.3	42	66.7	63
		Adjunct Professor	3	21.4	11	78.6	14
		Visiting Professor	1	20	4	80	5
		Lecturer	0	0	7	100	7
		Assistant Professor	27	37.5	45	62.5	72
		Others	0	0	5	100	5
	Total		74	74	164	164	238

Social and Gagne's Events of Instruction

Data obtained from the survey provided frequencies and percentages on the social media types

selected by the participants. The participant's responses were read several times to develop

connections with the data (DeWalt & DeWalt, 1998). Each participant's response was

43

categorized within Gagne's Nine Events of Instruction using structural coding. Structural Coding is a question-based code that acts as a labeling and indexing device (Saldana, 2009).

Although the survey was designed to collect and organize information on instructor use of social media within Gagne's Nine Events of Instruction, the information collected was read and reread carefully and reorganized into appropriate Gagne's Nine instructional events. This section reports how social media was used by instructors in relation to the Gagne's Nine event of instruction.

Figure 7 show instructors' responses regarding use of social media in relation to Gagne's Nine Events of Instruction.
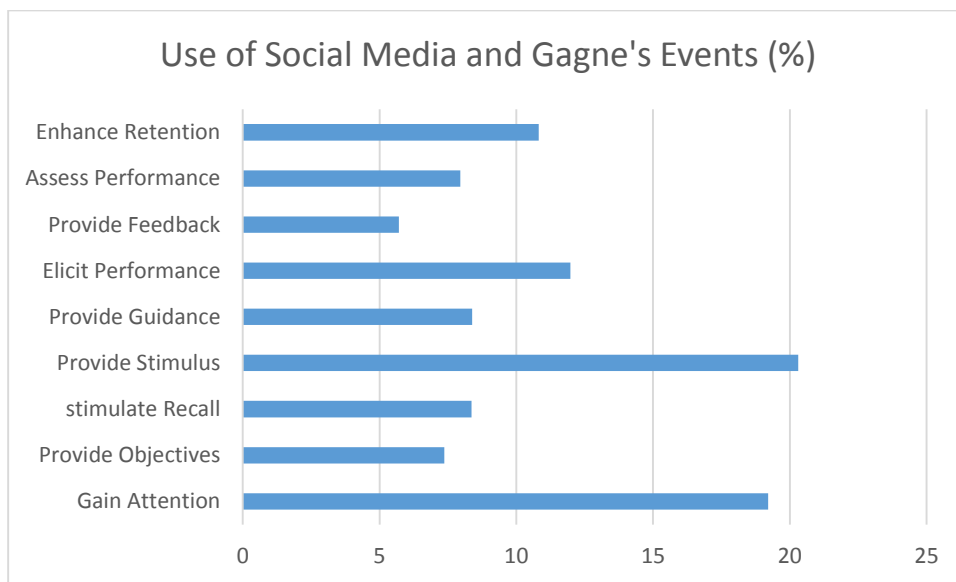

Figure 7: Social media and Gagne's instructional events
Gaining Learner's Attention

The use of social media for the purpose of gaining the learner's attention was the second most frequently used of Gagne's Nine events for instruction. About 19% of the respondents selected using social media to gain the learners attention.
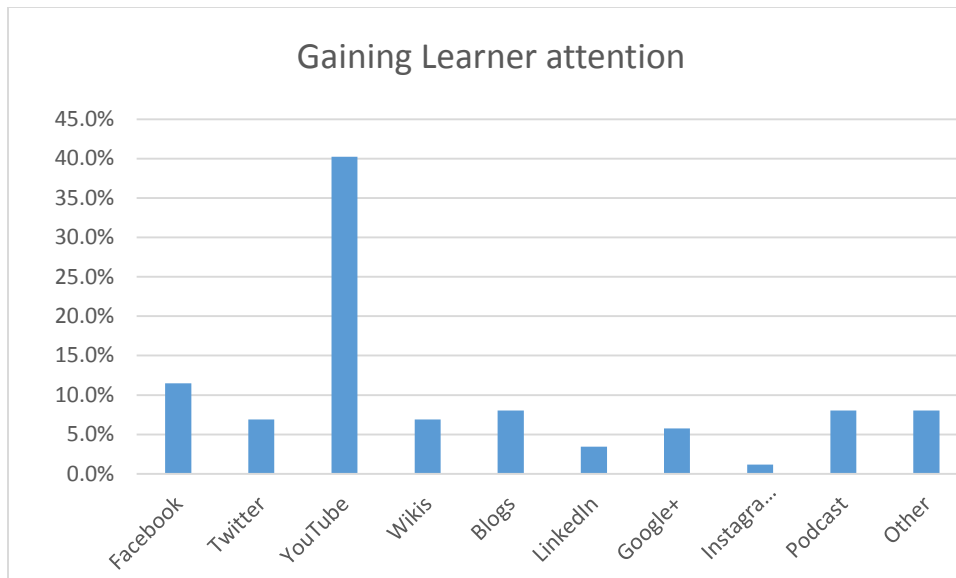
Figure 8: Gaining learner attention

Instructors used different social media applications to gain the attention of learners in different ways. YouTube was the most frequently used application. About 40% of the respondents selected using YouTube to gain learner's attention. YouTube was used to introduce the module to the learner in a creative and lively way. One participant said "I provided funny YouTube videos to introduce the Module." Another participant responded showing a video from YouTube "since it's more engaging than my boring presentation style."

YouTube was also used to gain the learners attention by generating their interest before starting the lecture. "I used YouTube to generate interest of the students before starting the lecture." Similarly another participant responded she/he used videos to arouse the students' interest in the new content to be learned."

Moreover, some participants sent YouTube videos and readings beforehand as way of generating the learner's interest in the lecture. One respondent described "giving YouTube videos and reading beforehand", while another respondent said she used "YouTube video to make them aware of the subject matter at hand."

45

Another way YouTube was used was to introduce a new topic with the purpose of gaining the learners' attention. This is illustrated by one respondent who described using "YouTube to introduce a topic." Likewise, another participant responded that she used YouTube "to introduce new concepts giving the learners a different perspective in my lab class." She continued to explain that "learners pay attention since the videos are followed with questions."

Furthermore, YouTube was used to set induction. This is shown in a response where the participant describes using "YouTube videos to prepare the learners thinking and make them ready for the lesson by playing a YouTube video as the students entered the class."

GroupMe was another type of social media used by participants to get the attention of individuals, groups or topics. Specifically, one participant described using GroupMe "to get students' attention of individuals in the groups, by using group titles that would gain learner's attention." The participant further described observing that "certain group names peak their interests causing them to engage the instructor and others in the group."

Facebook is another social media that was used to gain the learners' attention." This is illustrated by a participant who described using Facebook to "direct the attention of the group site to an area of study." The participant further explained that "this particular use of Facebook would spark discussions among the students and the instructor."

Twitter was used to promote discussion and collect information about learner's interest and experiences as a way of gaining the learners attention. One respondent described using Twitter to "get information about the students' interest, experience, and other information which would in turn promote further discussion".

Provide Learning Objectives

About 8% of the participants indicated that they used social media for the purpose of providing learning outcomes to their learners. 31% of the participants selected using YouTube to provide objectives to the learners making it the most frequently used social media in this Gagne's instructional event.
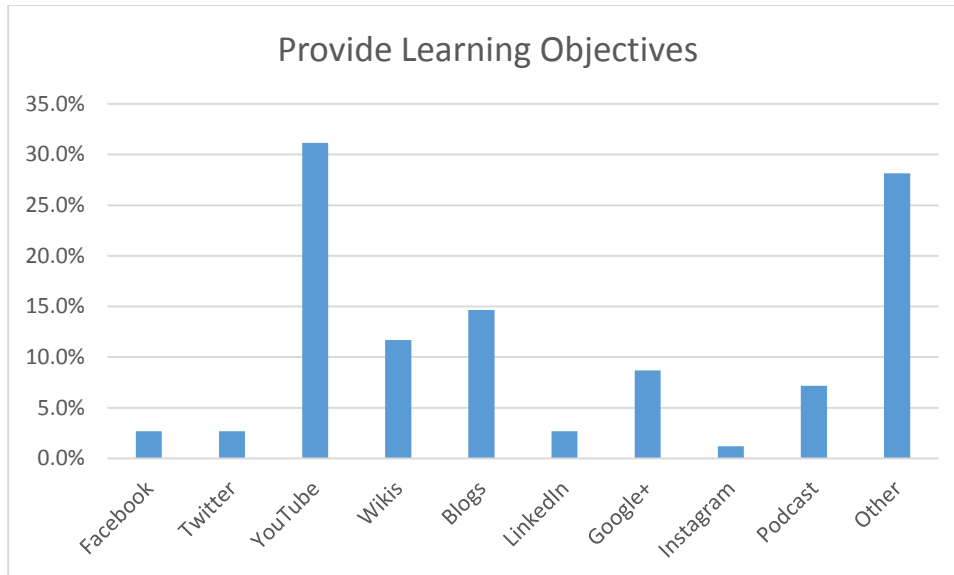

Figure 9: Provide Objectives

Instructors responded that they used YouTube to introduce the objectives in a creative way. One participant explained how he used YouTube videos at the beginning of the lesson to exemplify the learning objectives in a fun and creative way. Similarly, one participant responded, "Sometimes I provide YouTube videos at the beginning of a lesson to illustrate a point or learning objective from the week in a fun or creative way". Likewise another participant responded; "the first day of class I like to show a video to set their expectations since it's more engaging than my boring presentation style".

In addition, some participants used Voki to introduce and highlight the learning

objectives. This is illustrated by participant responses such as; "I used Voki to introduce learning

outcome", and "I used Voki to highlight expectations in the module."

Similarly, Blogs were used to provide and set learners' expectations. Specifically, one

participant described "using a Blog from NCTM to clarify the learning outcomes." In a like

manner, another participant responded "using Canvas LMS to specify the learning outcomes."

Many instructors in the creative arts used YouTube performances to set standard and

expectations. This is to illustrate when one participant described "using YouTube to show the

standard and level of playing and performance expected." Likewise, another participant

responded "using selected YouTube videos to setting the project criteria"

Additionally, some instructors "used YouTube examples to set learner's expectation of

what the final project or production should be." Similarly, another participant responded that he

used "some video clips show analysis of different concepts that will be addressed in the course

and are useful in explaining what the student is expected to learn."

Stimulate Recall of Prior Knowledge

In relation to Gagne's Nine Events of Instruction about 8% of the participant used social

media to stimulate recall of prior knowledge (Event 3). YouTube was the most frequently used

social media in this event with 34% of participant selecting using YouTube to stimulate recall or
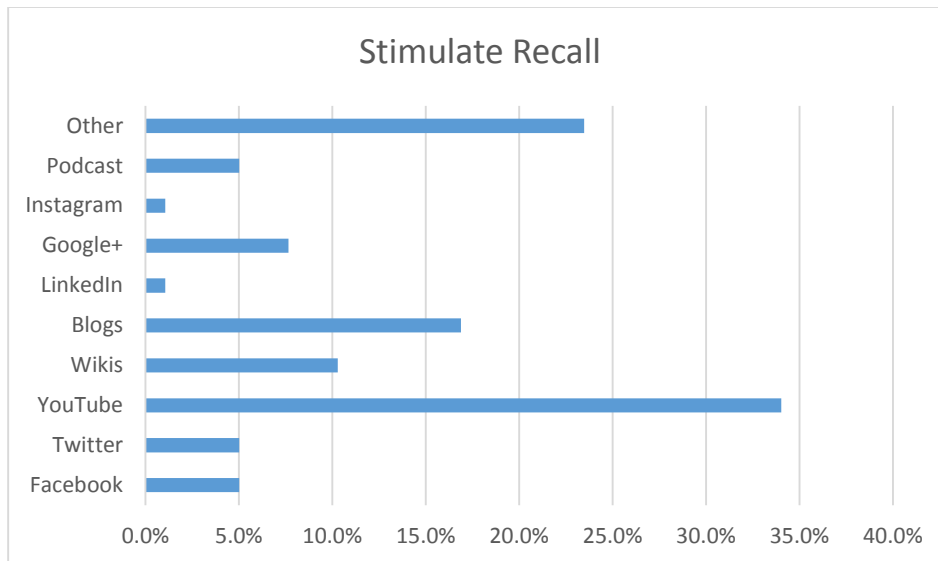
prior knowledge.

Figure 10: Stimulate Recall

Different types of social media were used in different ways to stimulate recall of prior knowledge. Some participants used YouTube to check students' understanding regarding the concept of the chapter." In the same way, another participant indicated that she "used videos that have a good description of material in combination with Clickers to discuss concepts learned in the previous class". Likewise, another participants described "using review videos to stimulate recall about Thermodynamics which is a compulsory junior course for three undergraduate majors in engineering. The YouTube videos were consequently used to review previous concepts."

Google+ was also used to stimulate recall through reviewing concepts covered in the previous course. A participant described using "Google+ as a common ground for reviewing of concepts covered in the course. Materials were posted for student to read regarding concepts of the course which were posted for class review."

Twitter was also used to stimulate recall. According to one respondent it was used for "reminding students of what was presented or discussed earlier in the day during class." In the same way, another participant responded that she used Twitter by "asking students to respond to

49

links posted as an introduction to a topic." In the same way, Twitter was also used by another participant to "discuss previous course experiences". According to a participant, "Twitter prompted dialog among students regarding previous course experiences"

Present Stimulus

Instructors used different types of social media to present their content. According to participants' responses, 20% of the participants selected using social media to present stimulus making it the most frequently used of Gagne's Nine Events of Instruction. (Figure11).
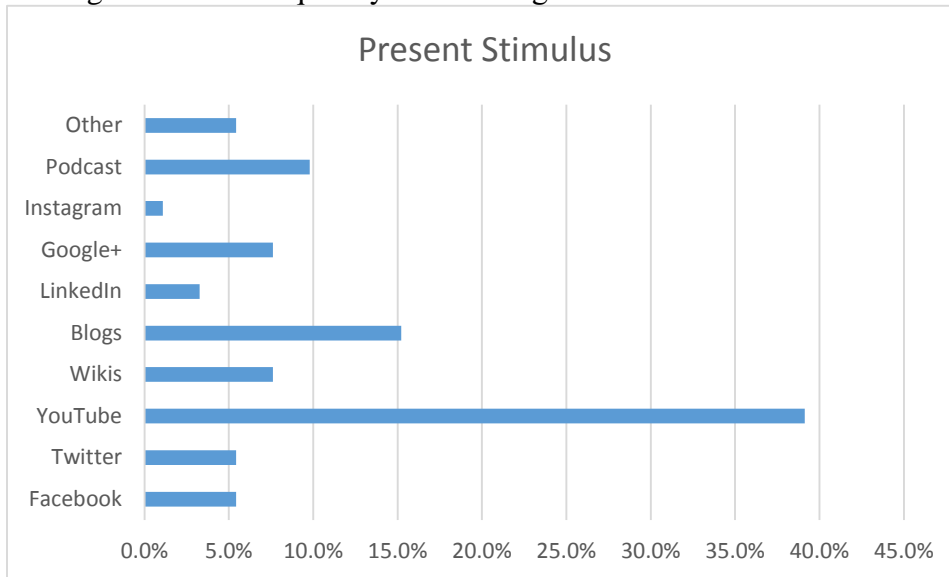
Figure 11: Present Stimulus

Instructors used various social media in different ways to present stimulus or content to their learners. YouTube was the most frequently used social media to present stimulus. About 39% of instructors selected using YouTube to present their content. Specifically, a participant described using YouTube video "to show biological structures such as microbial mats or biofilms in the environment."

YouTube was used for the purpose of presenting current issues by some instructors evident in responses such as; "Presented conference presentations or talks by researchers on up to date and current issues related to the class topic." Similarly, this is also shown by a participant's responses "I use video clips on current news and events related to the topic".

Another participant, responded that "there are lots of YouTube videos of professors doing lectures and she would "periodically show these lectures to her students instead of lecturing about the information."

Instructors in creative arts especially music, used YouTube to deliver content about music style. This can be seen in instructor responses like, "I used YouTube to show music styles "and "I used YouTube videos to deliver content of music styles." Another instructor described requiring the learners to listen to music played in YouTube "especially the music that had historical significance or influence."

Instructors used YouTube application to "provide a series of YouTube videos as supplementary course materials." According to the instructor, "these were supplemental so that students could use them in addition to material covered face-to-face in class." In addition, another instructor responded that, YouTube videos "provided more details for them on various subjects." Another instructor mentioned using YouTube videos "to show students things she wants them to see or give them examples."

YouTube was in some cases used to deliver content in a livelier way. According to one respondent "a lot of students respond better to videos than lectures and this prompted the use of YouTube videos in most of the lectures." This notion is also seen in other participants' responses such as "I often use YouTube video-clips in lieu of a read aloud or as part of instruction. Some YouTube are motivational while some are educational. They make the lecture livelier."

Google+ was used to present content to learners with about 8% of instructors selecting to use it in their courses. Several instructors responded that they used it to present content in an organized way. This can be illustrated by instructor's responses like "I used google+ to organize a course as a teacher educator as a means to model the tools." Likewise, another instructor

commented that "Google+ serves as an organizing tool to present content." Moreover, Google+ was used as a platform for posting class information and videos related to the topic. Additionally, another instructor used it "to posting all course readings on the Google+ site for student access."

Twitter which was selected by 5% of the instructors was also used for presenting stimulus. One of the instructor responded that she used "Twitter to post relevant links with noteworthy information to the learners" Instructors also presented content to their learners using Twitter to make it more interesting as indicated by the response "I Posted interesting class-related material on Twitter." Similarly, another instructor responded that she/he used "Twitter for posting relevant media and requesting feedback." In some cases, the instructors used Twitter in conjunction with media which prompted interaction through feedback.

Blogs were also used to present stimulus to the learners. Blogs were the second most frequently used application with 15% of instructors selecting it to present stimulus. In particular, one participant responded "I use the blog feature on Blackboard to reflect on concepts thus sharing with peers who also commented on each other's work." Blogs were used in conjunction with other social media applications like YouTube to present stimulus. One participant who responded indicated that she/he used it "for sharing interesting news or videos and requesting students to write a blog on video in order to help students understand specific concepts". Likewise, another participant used blogs to discuss current issues by "linking relevant new reports and requesting the learners to discuss through the Blog." Blogs were also used as a platform to present content and discussions that took place outside of class. One instructor described "setting a class blog in which student were required to write as out of class activities. This would be followed by discussion in the ensuing class meeting."

Wikis were also used for the purpose of presenting stimulus to learners. Instructors' response pointed towards the organizational and interactive capability of Wikis. The instructors are able to organize content and groups work as indicated by responses like "I selected Wikis as they are a good way to help organize groups around discussion topics and I mostly used Wikis for organizing students into groups." Similarly, another instructor indicated she was "using Wikis primarily because of their ability of organize content." However, some instructors used Wikis to make content more interactive than the textbook as indicated by the instructor response "I use these to stimulate in-class discussions and give a different perspective on the topic than what is in the book."

Some instructors presented their content using TED Talks. One instructor chose TED Talk because of its ability to make the learners view the topic from multiple perspectives as indicated by the participant how said "I choose topical TED talks as a means to come at topics we cover in class from multiple perspectives." Another instructor described using TED Talks to teach writing skills. The instructor described "giving writing credit and emphasizing on how to develop arguments and rationale in writing using TED talk which demonstrated the point beautifully."

Providing Learning Guidance

About 8% of instructors responded using social media to provide guidance. Social media was used by instructors to provide learning guidance in different ways.
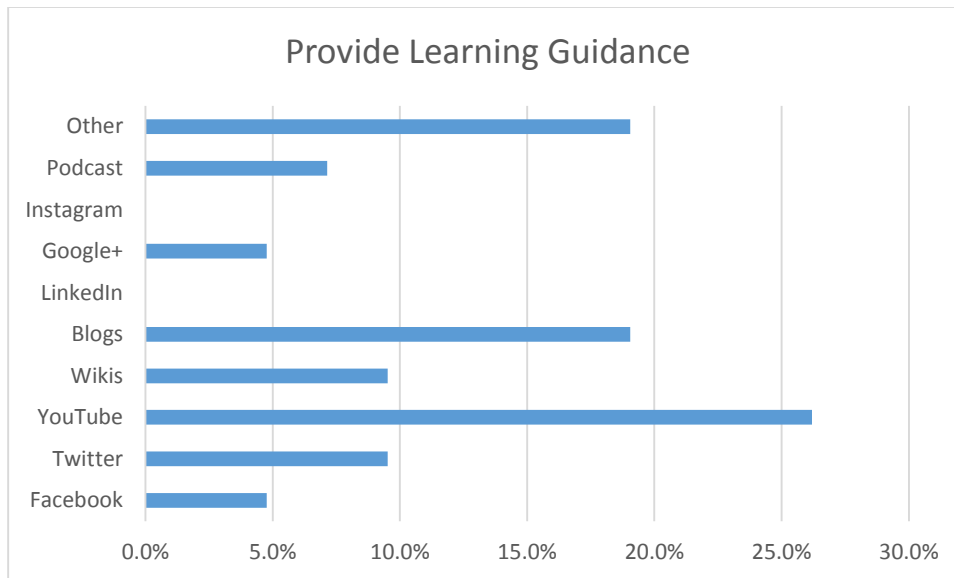
Figure 12: Provide learning guidance

YouTube was the most frequently used application with 26% of instructors selecting using it to provide learning guidance (see figure 12). For instance, one of the instructor described "showing animations regarding biological processes so that students could get a sense of reactions occurring in real time rather than just as a picture." Likewise another instructor described "providing links of specific YouTube videos to illustrate something from the week's readings in a visual way."

YouTube videos were used to demonstrate knowledge or skill the instructors wanted their students to acquire. This can be seen in participants' responses such as "sometimes in mathematics I ask them to watch videos on how certain problems in mathematics can be solved. I ask them to discuss the merits and demerits of various ways of solving mathematical problems. I also ask them to discuss the various aspects of solving problems and provide justifications as to why we do certain things in solving problems." Another participant responded he/she used "YouTube to help learners develop analytical solutions to equations." This notion is also expressed by another instructor who described his/her use of YouTube "for the purpose of

54

exploring different ways of solving problems and also learning how the same question can be asked in a number of ways."

In some cases, instructors used YouTube to guide learners on how to carry out certain tasks. This is evident in this instructor response, "sometimes I want to give them instructions on how to carry out some tasks. For example in statistics, I want them to perform a certain procedure. YouTube can provide steps that they can follow easily. I don't have to repeat instructions time and again, as they can just replay the video any time they want."

In certain instances, YouTube was used to guide learner through modeling. This is illustrated by an instructor's response where the students were required to model their own writing on strategies used for effective communication in the videos. This notion was apparent in another instructor who used "YouTube video to show the level of skill, musicality, and proficiency in age groups and level of experience." The instructor subsequently commented that "there are many different YouTube videos of exceptionally creative performance that can be used to guide learners."

Instructors used YouTube for the purpose of giving guidance through examples. This is illustrated by a participants' response "I used YouTube to show the example of a technique" and "I show examples from YouTube." Another instructor described "using YouTube to show examples related to the lecture." Additionally, a music instructor shared examples of how he/she used YouTube to guide the learner into the expected outcome.

YouTube was used by some instructors to guide learners into acquiring or developing analytical skills. For instance, an instructor described requiring student to view particular YouTube videos on developing analytical solutions to equations. In a similar way, another

instructor responded using "YouTube to guide learner in formulating compelling arguments and rationale."

YouTube was sometimes used in conjunction with other social media like Blogs to give guidance to learners on areas specified by the instructors. In particular, an instructor responded that she "used education videos uploaded to YouTube and blog posts about child development to facilitate discussion and highlight key concepts for students."

About 5% of instructors used Facebook to provide guidance to learners. Facebook was used to among other functions to provide guidance through announcements and reminders. One instructor commented "I use course group Facebook to make announcements and reminders."

Facebook was also used to provide guidance through "posting specific instructions and additional information about certain assignments. Another instructor described "providing more details to the students on various subjects"

One participant stated "learners preferred using Facebook than emails outside of the scheduled time and so the learners could thus interact with themselves and the instructor using Facebook." Similarly, according to another instructor, "students preferred to use Facebook in the course rather than email." The instructor subsequently proceeded to elaborate that "sometimes a student will post a question they are having on the class page and students or myself will offer guidance on how to move forward with the task."

Blogs were also used to provide guidance to the learners. About 19% of the participants selected Blogs to provide guidance to the learners. One instructor talked about using blogs to provide guidance on research papers. According to this instructor, "learners use the blog posts as a starting point for research papers." In addition, another instructor remarked that he used "blog posts to specify the scope of the topic as part of guiding the learners."

56

Blogs were in some cases used in conjunction with other social media to provide guidance to learners. One instructor described providing guidance, suggestions and recommendations to learners and the general public through Blog posts. This was done sometimes through embedding YouTube videos. This is shown by the instructor's response, "I run the Advanced Energy Forum in the American Society of Mechanical Engineers (ASME). My suggestions and recommendations (to general public and students) are embedded in many of my ASME blog postings, and even YouTube videos."

About 5% of instructors responded using Google+ to provide guidance to the learners. One instructor remarked "sharing good examples through Google+ with the learners to give them a clear idea about assignments." Likewise, another participant responded "providing specific guidelines for assignments and the course syllabus via Google+."

Google+ was used as a forum where learners could seek guidance in their endeavor to conduct their projects effectively as indicated by the instructor response, "Encourage them to communicate with Google+ to conduct their projects effectively." Furthermore, Google+ was used for the purpose of "disseminating information" as one of the instructor's commented. One participant responded using Google+ "Specific guidelines for assignments and the course syllabus were posted on Google+."

Twitter is another social media that instructor used to provide guidance to their learners and 10% of instructors used it. One of the instructors described using Twitter to "ask leading questions that would guide student's reading habit and prepare them for the class discussion." Another instructor responded providing "study tips and links" to their learners, while some instructors used Twitter to "remind students about deadlines." Additionally, Twitter was used to provide links to a more detailed announcement on Blackboard as cited by one of the instructors.
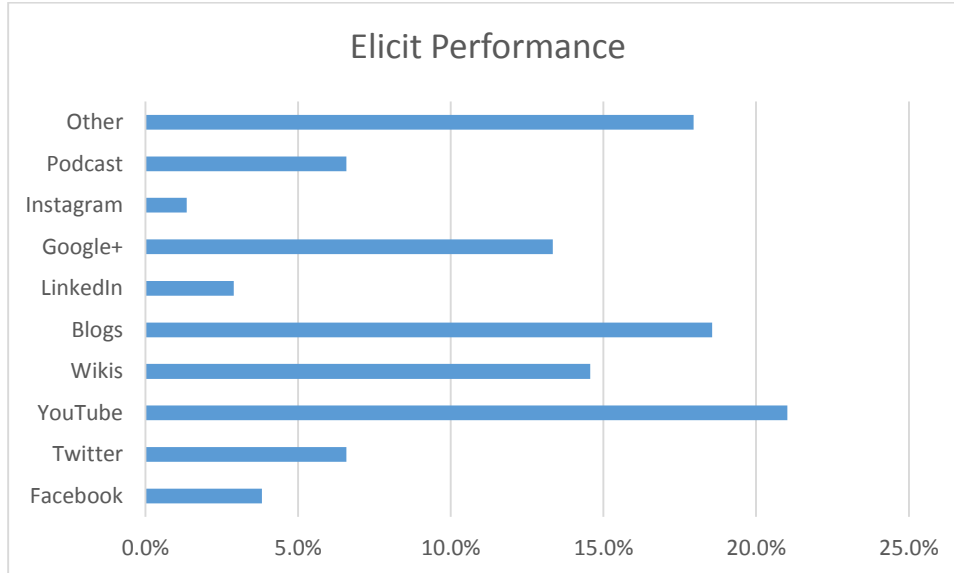
Elicit Performance

Figure 13:Elicit Performance

Different types of social media were used in different ways to elicit performance. About 12% of the instructors responded to have used social media for the purpose of eliciting performance. This section will discuss how social media was by instructors.

YouTube was the most frequently used with about 21% of the participants responding that they used it to elicit performance in their instruction. One use of YouTube was for the purpose of engaging the learners through discussions. According to one of the participants, "YouTube videos are great for class discussions. I showed them and then ask students' opinion about the videos." Similarly, another participant responded that "YouTube videos are mediums that enhance discussion." Another respondent who used YouTube to elicit discussion responded "I use these videos to stimulate in-class discussions and give a different perspective on the topic than what is normally found in the book."

A respondent described using YouTube to model authentic learning in the course designed to teach practicing teachers how to design technology rich curriculum. The instructor

had "created a video on YouTube which introduces an authentic character who challenges the group to solve a particular problem." The instructor would then challenge the learners to discuss how they can solve certain curriculum related issues.

In certain instances, learners were required to view a YouTube video and then respond to what they saw or heard. One of the participant described how "YouTube videos were assigned to the learner and then questions were provided for them to answer." Likewise, another participant responded that "leaners took my YouTube hour lectures and extracted the key content." This notion is also seen in the music course where one of the participant stated, "In one of my courses I have students watch/listen to music and write analyses on.... for example an analysis of the lyrical content of a traditional blues composition."

Some instructors assigned YouTube videos and required the learners to watch and listen to them and then share their results with the other learners. This is illustrated in the response "students can post their results and share them with others." Likewise, another participant responded "assigning YouTube videos to students and requiring students to contribute to a blog that links classroom and news reports." As part of eliciting performance through watching and sharing, a participant described "creating videos of teaching episodes and requiring the learners to share their review and reflections with the other learners." In another sharing example, the participant "required the students to find YouTube videos regarding specific topics and share them on the Facebook class group."

YouTube was in some cases used as part of the assignment. One participant described how the learners were required to watch assigned YouTube videos and "compare the learners profiled to how they respect or treat their educational opportunities. They also designed class presentations inspired by what they learned from such media."

Blogs were also used to elicit performance. About 19% percent of the participants used blogs for instruction. Blogs were used in different ways to accomplish learning. In some cases blogs used for reflection on concepts. According to one respondent, "learners reflected on the concept and then shared with other learners and commented on each other's work using the Blackboard Blog." Another participant described how Blogs were used where "learners were asked to blog about their understanding about, questions, concerns, and ideas related to a variety of social media tools use in K12 classrooms."

Blogs were used for the purpose of completing assignments. There are instances where Blogs were used as a starting point for a project. According to one participant, "learners would post a brief introduction to the Blogs and other students would comment." Through "feedback from the instructor and their peer they could create the topic and subsequent problems of study. " Similarly, another participant described "giving assignments to learners by providing them with a narrative and requiring them to respond in the Blog." However, one respondent in the engineering department remarked that "Junior and senior undergraduate students in Mechanical and Aerospace engineering had to do an assignment by blogging on the ASME website."

Sometimes blogs were used for group projects. One respondent explained how the "students worked in a team to develop museum exhibitions and visitor research. They used the course blog to have team discussions and to carry out tasks outside of class." However, another participant described how the "learners were required to write their responses in a blog that would be followed by a discussion in their next meeting." One of the participants described "Blogging to be more open and loosely guided thus allowing discussions.

In certain instances, instructors required the learner to use Blog as part of the learning activities. This is illustrated by participant's responses like; "I expect all students to contribute to

a course blogs." Likewise, another participant described "using blogs to post weekly reflections and requiring each student to respond to at least two of their classmate's Blog posts."

In a child development class, the participant described a classroom blog in which learners posted different issues related to the course. "Learners would comment and respond to each other's blog, consequently helping the students move closer to understanding the big issues."

About 15% of the participants indicated they used wikis to elicit performance in their teaching endeavors. According to one participant, "Wikis were used to create both individual and group projects." Several participants used Wikis in the Canvas learning management system to create projects as illustrate by comments like, "I use Canvas course management system for collaborative projects", "I used Canvas course management system for individual projects" and "I used Canvas discussion groups and wiki webliography."

Wikis were used in a qualitative research course as described by one of the participants. "Students built resources on qualitative research and gave feedback to each other." Additionally, another participant responded that "Wikis create a dynamic, public (within the class) way for students to communicate with one another as they worked toward a research project."

Wikis were also used as a forum where students shared information. One respondent described how "students were asked to find and share 'pop responses' across the semester on popular culture responses, news, film clips, essays, music etc. Consequently, students presented their pop responses facilitating discussion about them. Students built resources on qualitative research and were graded on their pop response."

In certain instances, Wikis were used to create resource information. Two respondents in different universities described in different words using Wikis to compile information about their local area. One of the participant responded, "Directed their attention to a group site in our area"

while the other participant responded, "Compiling information in our area." The learners thus were able to collaboratively build resources about their local area using Wikis.

Wikis, as one participant pointed out, "helped learners create narratives and created dialogue opportunities among the students." The participant subsequently described how Wikis were "used to share information and house products that promoted an advocacy issue."

Google+ was also used by the instructors to elicit performance. About 13% of participant selected using Google+ for instruction. One respondent pointed out that he uses Google+ to "allow the students to share ideas and progress on projects so that they are in constant communication with each other during the project cycle." This notion is also seen in another participant who described using Google+ to help organize group projects. The participant explained that "students (prospective teachers) often work full time and they often refer to scheduling as preventing them from being truly collaborative. These tools offer alternative ways to collaborate."

Several participants indicated using Google+ for the purpose of assignments. One participant responded that "assignment were posted on the Google+ course site." This is also seen in another participant's response that "students were asked to post essays and comments in the Google+ class site." The learners were required to post both individual and group assignments. In some cases, according to the participant, "students were required to post the complete project initially created using YouTube on Google+."

As pointed out by a participant, "from team management to simple task allocation and tracking, Google+ has useful tools to connect students who may have vastly different schedules and are unable to meet up in person. During a campus closure related to weather, students were able to still work on joint presentations remotely with each other."

Google+ was used as a platform for sharing information with one another and the instructor. This is where the instructor "posted student comments on readings and student essays on assigned topics" as explained by one participant. Similarly, according to another participant, "the learners shared their opinion with the others in the course." A description was given by the instructor on how Google+ was used for weekly discussions on the course readings. "The students were required to post their observations and comments on the readings and were further required to comment on each other's posting."

Google+ was additionally used to elicit discussions. This is illustrated by the subsequent participant's comment that, "I have found the use of a Google+ site to be a good vehicle for promoting discussion, encouraging interaction among students, and handling academic assignments."

Google docs is another Google application that was used by instructors that entails student collaboration on tasks. Google docs markedly entailed "students working collaboratively on documents sometimes in conjunction with Google Hangout" as pointed out by one participant. Furthermore, another participant remarked that "as for field trips and like activities that require coordination, Google doc was handy in sharing information especially using mobile devices. They can update the document and everyone can see it." Additionally, another participant remarked that "Google docs is handy especially when dealing with a large group project. Students shared their videos through Google doc allowing everyone to review them at the same time. They could also write questions directly into the documents outside of class hours and get an answer that the entire class can see."

Twitter was also used to elicit performance. About 10% chose Twitter to elicit performance. One participant described using Twitter by "requiring the students to comment on

each other's assignment using Twitter." Another participant responded requiring "the students to Tweet images and videos related to the reading." Another participant described "asking the students to post media related to project in progress."

Twitter is also use to lead students into discussions especially due to its promptness and brevity. As noted in one of the comments, each week the instructor had a Twitter prompt and that is where discussion originated in the online classes. "I do this so that students have to respond to the prompt and to each other in a limited space. I also found out that students are more engaged with discussions because of the short nature of messages." Similarly, another participant responded "using student's tweets as basis for in-class discussion."

About 8% of the respondents said they used Facebook to elicit performance. Facebook was used as a forum of discussion. One participant responded that she "created a Facebook group site for the students and used it as a platform to discuss future group projects as well as updating the existing ones."

Facebook was also used for assignment and projects. For instance, one respondent described "giving student assignments involving researching social media expressions of gender in student selected profiles and feeds. Facebook was subsequently used in conjunction with other social media applications such as Twitter and Instagram to complete the project."

Social media applications listed as "others" that were used by instructors to elicit performance accounted for 18% and included Peerwise, TED, Canvas, and Blackboard. In particular, a respondent described using Peerwise and "online student led test-bank generator. The instructor required the students to ask each other questions. The students answered question and commented on each other's questions. They were assessed and given points for their contribution."

TED was also used by instructors to elicit performance. A respondent described "using TED to give the students specific questions prior to watching the TED Talk and then requiring them to respond those question in writing which was subsequently followed by group discussion."

Both Canvas and Blackboard were selected as platforms for discussions. The discussion were conducted through the discussion board and Chatrooms. One participant stated," I use Blackboard collaborate platform for chat rooms or group's activities." Another participant described "posting reading in Canvas and requiring the student to discuss through Canvas discussion forum."

Provide Feedback

Different social media were used in different ways for the purpose of providing feedback to the learners. About 8% of the participants indicated they used social media for providing feedback to their learners. Social media listed as "Others" ranked the highest in the feedback event accounting for about 39%. Some of the social include Blackboard discussion and blogs, Canvas discussion board, and GroupMe.
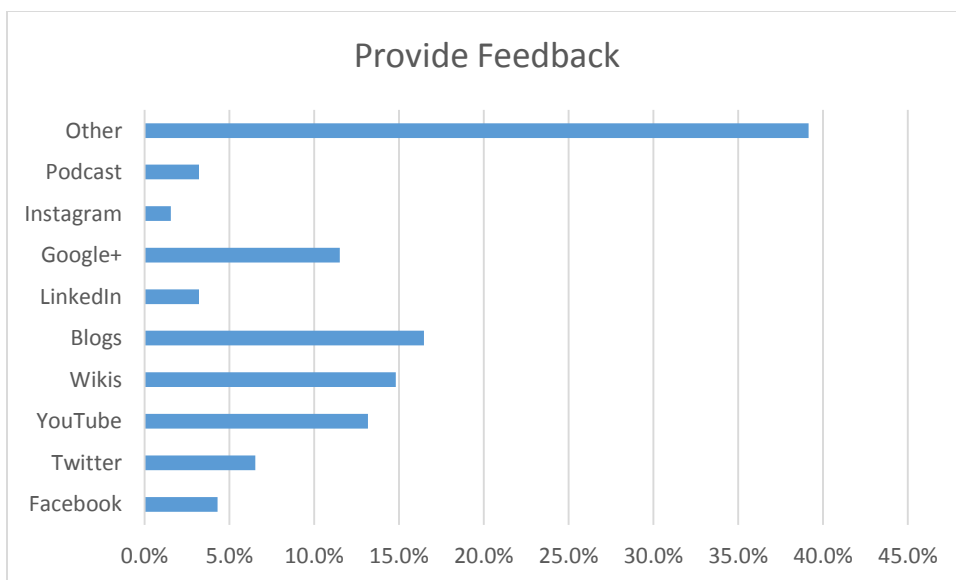
Figure 14: Provide feedback

According to participants, "assignments were turned in via blackboard and feedback was provided." Some participants "used Blackboard Blogs requiring students to give feedback to each other.

Instructors used social media to provide feedback to the learners. For instance one participant described using canvas to provide "feedback to the learner's discussions and assignments."

GroupMe was used to "inform students directly of their status on project as they were graded as pointed out by one participant." As an illustration, one participant said he used GroupMe to provide feedback to assignments.

About 17% of the participants who used social media to provide feedback indicated that they used blogs. Blogs were used for peer to peer feedback. According to one instructor, "Teacher-learners were required to comment on the blogs of other teacher learners." Most participants used Blogs to provide feedback "by adding comments on what the students wrote." However, one participant used Blogs to provide "feedback as the project progressed."

Wikis were also used to provide feedback. About 15% of the participants used this social media to provide feedback to their learners. One participant commented that "Wikis have been a good way to organize class leaders and also allow students to offer feedback to me and others on class material." Another participant responded that she/he used Wikis for "posting information and receiving group feedback."

The instant messaging and brevity characteristic of Twitter makes it convenient for providing feedback. Instructors "used Twitter to comment on assignments" as noted in some responses. One participant described using Twitter as a "fast way of answering students question and providing feedback." Another participant responded, "with Twitter app and notification

turned on in my iPhone, I can receive feedback and we can toss ideas around in a non-traditional pedagogical format." In some cases, instructors "posted media to the students on Twitter and requested students to give feedback."

Google+ was also used to provide feedback. About 12% of participants indicated that they used Google+ to provide feedback to students. Google+ was used for peer to peer and instructor feedback. According to one participant, "students were required to comment on postings both in the weekly discussion and on essays using Google+ during the semester." Likewise, another participant remarked that "most of the feedback on essays was peer feedback but I also posted my own feedback on the Google+ site."

Instructors used Google+ as a platform to post assignments and provide feedback to the postings. According to one participant "assignments were submitted in Google+, the instructor provided feedback or asked probing questions related to their post and submissions. Another participant responded that she/he used Google+ "to provide feedback when learners were working on collaborative assignments."

YouTube was also used to provide feedback. Although YouTube was the most frequently used application of all the events, it was least used for providing feedback with about 13% of participants selecting using it. One participant described using YouTube by requiring "students to post specific materials and receiving feedback from the other students" Another participant described "requiring students to solve problems and instead of giving them solutions, they were requested to watch specific videos to see where the mistakes were made."

In certain cases as noted from the participant responses, students were "required to create videos and upload them to YouTube. They were also required to comment on each other's video while receiving feedback from the instructor."

LinkedIn was used by about 3% of the respondents for providing feedback. This is

illustrated by a participant who used "LinkedIn to receive opinions from others in the network."

Similarly, another participant used LinkedIn to "receive opinion from experts in specific fields."

Assess Performance

There were fewer responses in this event compared to other events, 8% of participants
used social media to assess performance. There were fewer responses in this event compared to
Gagne's other events of instruction. Most participants selected using social media listed as
"other" accounting for 22% which were mostly Canvas and Blackboard.
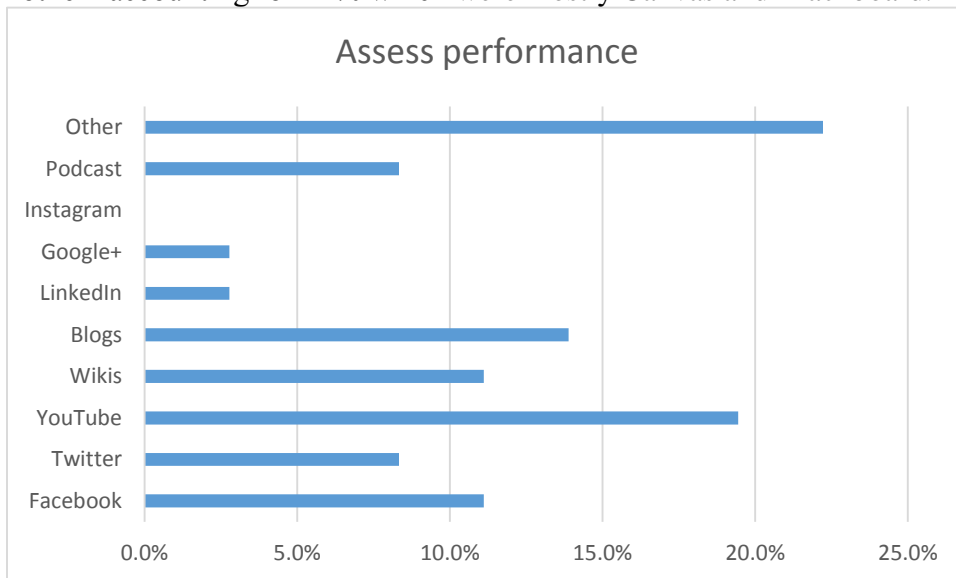
Figure 15: Assess performance

One participant described using the Canvas course management system for "learning

outcomes and assessments and referring to material on social media for review and comments."

Another participant remarked, "I use Canvas course management system for learning outcomes

and assessment rubrics." Likewise, according to another participant, "each activity that required

the use of a wiki, development of a wiki, creation of a blog, and production of a podcast series

were assessed through an instructor-developed rubric to determine understanding of the tool

affordance in meeting learning goals, skill development of the tool, and final product design

elements."

Despite the participants selecting using social media for instruction in the survey matrix, very few comments were given in this event as compared to the other Gagne's events of instruction.

Enhance Retention and Transfer

Social media was used in various ways to enhance retention and transfer. About 12% of instructor used social media to enhance retention and transfer in one way or another.
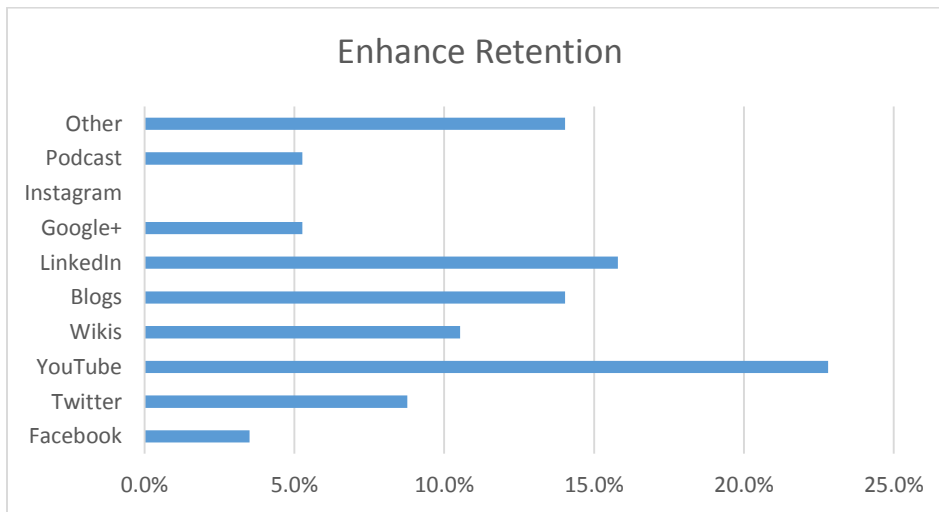

Figure 16: Enhance retention

YouTube was the most frequently used social media for enhancing retention. 23% of participants selected using YouTube for learning in Gagne's event of enhancing retention and transfer. YouTube was used in different ways to enhance retention and transfer. However, several participants used YouTube the same way but used different wordings in their response.

YouTube videos helped students see the application of models and strategies. One participant responded "showing a video and consequently asking students to apply the information that they previously learned to the scenario that is being presented in the video." Similarly, another participant responded "portraying a case study through YouTube, and observing how the students applied the concepts discussed in class to a real world situation."

Certain instructors used YouTube videos as examples to portray real life setting to the students. According to a participant in the themed entertainment class "there are often excellent examples of work in this field on YouTube". The participant also describe requiring the students to play roles outside their presumed expertise or comfort zone.

Similarly, YouTube was used to give examples that helped learners retain what they have learned. One participant responded using YouTube to "illustrate examples from lecture, showing advertising examples from video in YouTube." However, another participants described using YouTube videos to show students thing the participant wanted them to see or "to give examples of possibilities."

YouTube is used by instructor to show relevance of what the student learned. One participant described "using lectures by relevant academics, news reports and case studies that has been uploaded in YouTube to help show the relevance as well as how current many of the concepts are. This also provide a multicultural lens or another angle to the same topic."

YouTube provides a more real perspective of what is learned as a way of enhancing retention and transfer. According to one respondent, "things taught in class are put into a global or societal perspective with archived documentaries, movies, musical performances, or even service media." Likewise, another participant responded "I used YouTube to stimulate discussions and give a different perspective on the topic than what was in the textbook.'

YouTube helps paraphrase what is taught and translate it into a real life situation. This comes out clearly when the participant responded that when "students cover work in class, I requested the students to look for similar problems and let them explain how the content covered in class helped them understand those problems." At the same time, the instructor "wants them to discover on their own whether there are any gaps in their understanding of the concepts."

Instructors used social media for presentation as part of enhancing retention and transfer. According to a participant, "the students exercise was making commercials on major topics from the lectures. Each student create a two minute video which was uploaded in YouTube."

Paraphrasing YouTube videos is used to enhance performance and retention. This is illustrated where the participant "show example videos from YouTube then request students to find YouTube videos that illustrate specific principles and write an essay describing the utility."

LinkedIn is also used by instructors to enhance retention and transfer. About 16% of participants used LinkedIn to enhance retention and transfer. According to one of the participant's response, "learners were required to share opportunities via LinkedIn, a requirement for upper level students." Similarly, according to another participant, "learners use LinkedIn as an application of what they have learned in the course."

However, as part of applying what they had learned, "learners were required to use LinkedIn for a project that involved job search in groups. "Another participant responded "that students were required as part of a project to sign up for the department LinkedIn site for job search." Several participants responded "requiring their learner to create a LinkedIn profile and use it for job search."

Respondents used LinkedIn site to "provide tips on how to search jobs." Learners were also "referred to LinkedIn in the college career center read and review information on the use of LinkedIn for job search."

About 14% of participants used Blogs to enhance retention and transfer. According to one to the participant, "students apply what they have learned in writing and in action through blogs." Another respondent described "requiring learners to post questions or comments on clinical practice opportunities they have as part of the teacher licensure work."

As part of applying what is learned, one instructor required the students to research and put relatively new information on their Blog in the ASME website as part of the assignment required for the course.

Wikis were also used to enhance retention and transfer. About 11% of participant selected using Wikis to enhance retention and transfer. One instructor responded that she/he required the learners to participate in the advocacy Wiki that is used to promote particular educational topics while serving as repository for products designed. They were required to promote their topics using tools and strategies previously learned in the two-year program."

Concerns with Using Social Media

As mentioned earlier, the respondents who reported that they were not using social media for instruction were redirected to a section of the survey that required them to rate how important their concerns were for eight statements. The questions were also applied to the respondents who indicated that they used social media for instruction.

Mean and standard deviation were calculated to determine the level of concerns in the use of social media by instructors obtained from the Likert scale type questions in the survey. According to the participants' rating on the level of concern, integrity of student submission had the highest mean (M=1.94, SD=1.15). This was followed by the concern of "learners wasting time" with a mean of (M=1.57, SD=1.27) and "Privacy concern" (M=1.36, SD=1.2) accordingly.

The level of concern with the low rating included; Lack of support from the department (M=0.84, SD=.99); Inability to assess (M=0.98, SD=1.08); Not supported by the LMS (M=1.06, SD=1.08); Difficult to use for instruction (M=0.83, SD=1.02) and Grading and assessing policy (M=1.04, SD=1.17). See Figure 17.
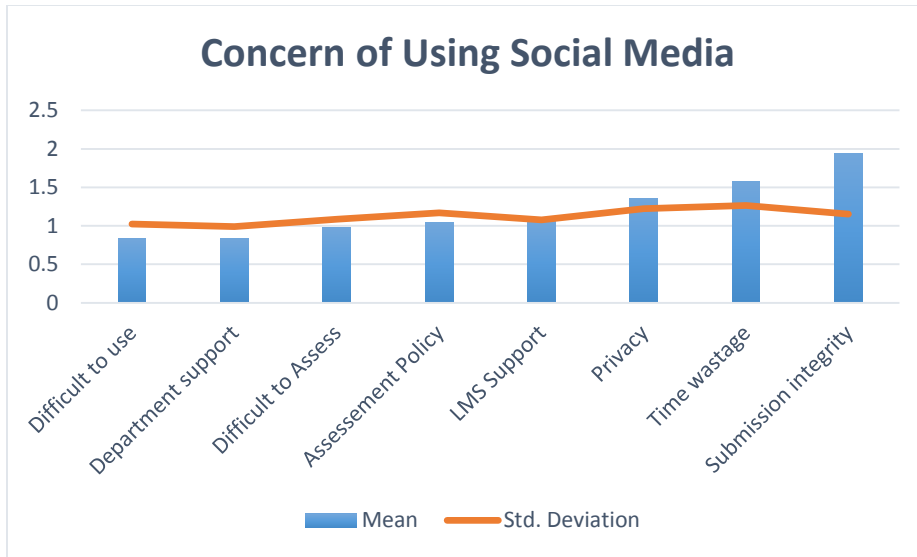
Figure 17: Concern of using social media

This section also required the participants to briefly write about any other concerns they had for using social media for instruction. This section briefly discusses the concerns that were given by the instructors.

The issue of privacy was pointed out by participants as one of the main concerns in the use of social media for instruction. Specifically, one participant remarked "privacy is usually my biggest concern." Similarly, another participant responded being concerned about "privacy and ownership of one's material." Additionally, one participant responded "getting concerned about the student's privacy and the concern of their information and work being in the cloud."

The issue of privacy was coupled with the separation between personal and professional use of social media. One of the participants cited the "fine line between personal and professional use of social media as a great concern." By the same token, another participant commented, "trying to keep professional and personal social media outlets separate. I think many of my students (who are teachers) are also concerned about privacy in social media."

There were concerns related to the fact that social media consumed lot of time for both the instructors and the students. Certain participants responded that the "use of social media is

too time consuming." They expressed the fact that "a lot of time is required to set up and manage privacy settings." "I am somewhat concerned about the amount of my time it will take to set up and assess" remarked another participant." Similarly, some participants indicated that "it take a lot of time to develop assignments and activities in social media." Interestingly, one participant asked, "Do I really need to add to the time that my students are on social media?"

Lack of familiarity, experience and comfort using social media was also pointed out by participants as concerns of using social media. This is indicated by responses like, "Some of my limitations are just my own knowledge and comfort levels related to using social media" and "am not aware of how to use them" and "lack of experience using social media in instruction." Some participant attributed concern of using social media to "lack of familiarity with some forms of social media and lack of equal access to and comfort with social media platforms for all students." In a like manner according to the participant, "lack of robust Wi-Fi access in classrooms diminishes its use in real-time."

The concern of having complete control of what the students see as individuals and what the class sees was revealed in the participant's responses. According to the participant, "It is important for instructors to have complete control on what each student sees as an individual and what the class see. If the social media cannot be completely controlled by the professor then it should not be used in the first place." Similarly, another participant concerned about control remarked that "Social media are a powerful tool for addressing public and advertising research aspects. However, when addressing a small group of people (and especially for educational purposes) it is easier to do it with platforms that are more controllable."

Another concern raised by participants was not knowing where to fit social media in their instruction. This is illustrated by participant responses such as, "I am just not sure where it fits in

74

a mathematics course" or "I would not know how to use it for an engineering class." one participant responded that "social media was just not relevant to the type of course they teach."

Some participants expressed concerns about "the FERPA regulations citing that they make the use of social media more difficult" and so they opt using only their institute's learning management system. This is indicated by participants' responses such as "I use the equivalent open-forum discussion on the system my university employs."

The integrity and validity of information and assignment through the use of social media is a concern to some participants. According to one participant, "The validity and accuracy of the in information can be very bad on social media. I try to teach the student this and help them learn how to assess the information." This is also seen in another participant who commented "my concern is the quality of assignments that are met through social media. Am concerned that social media might be perceived as either a panacea or a distraction or both. In my opinion a negative effect on the process of teaching."

Besides expressing concerns on using social media, there were participants who conveyed not being in favor of using social media for instruction. Despite sending the survey to the participant, there were some who opted not participate in the survey but rather replied through email with added information to express and emphasize the fact that they don't use social media. One participant described not using social media with the following words; "I retire next semester and avoid the use of social media in class at all costs." Similarly, there were a several participant who emailed back stating that they don't use social media. For instance, "I just don't use social media period." However, another respondent emailed back asking "why should an instructor use social media for learning?"

Chapter 5.

Discussions and Conclusion

Besides outlining details on demographic and use of social media, the result section further delineated an explicit use of social media in relation to each Gagne's Nine event of instruction with quotes from the instructors. This section explores the types of social media used and how they are used in relation to Gagne's Nine events, hence addressing the research questions:

1. What are the social media applications being used by instructors in the teaching and learning process?

2. How does instructors' use of social media relate to Gagne's Events of Instruction?

The study found out that 31% of instructors use social media for instruction. An earlier study conducted by Seaman & Tinti_Kane (2013) revealed that about 41% of instructors used social media for instruction.

Most of the instructors who indicated they do not use social media for instruction cited the issue of integrity of submission and privacy as a major deterrent.

Although the instructors may not have necessarily planned the instruction using Gagne's Nine Events of Instruction, after carefully sorting their responses, it was apparent that their instructional activities using social media were within Gagne's Nine Events of Instruction.

A careful look at the participants' responses revealed that most instructors used different social media applications with the aim to foster learner engagement. According to Junco, Hieberger and loken (2011) learners are highly engage through social media in ways that transcends traditional activities. This is also revealed by the numerous mention of the word 'engage' in the instructor responses.

Different social media applications were frequently used by instructor for different Gagne's instructional event. Certain social media application were frequently used for creating and sharing information, while others were frequently used for providing guidance and for application. For instance, YouTube was frequently used to provide guidance, while Wikis were used for collaborative writing and sharing of information.

Research Q1. What are the social media applications being used by instructors in the teaching and learning process?

The results showed that the social media frequently used in regular instruction include: YouTube, wikis, blogs, Twitter, Facebook, Google+, Google Docs and LinkedIn. However, other social applications such as GroupMe, Peerwise, and TED were also used. The blog, wiki, rubric and assessment tools in Canvas and Blackboard Learning Management Systems (LMS) were also frequently used by the instructors.

YouTube was the most frequently used application across Gagne's Nine Events of Instruction. This is consistent with a study conducted by Burke, Snyder and Rager, (2009) which revealed continued favorability of YouTube in both online and in-class discussions.

YouTube was used frequently in relation to Gagne's Event of instruction to provide guidance to learner. Different instructors from different departments used YouTube to provide guidance. There were examples where instructors use YouTube to provide complex guidance in mathematical equations and models and other examples where they used it to provide guidance in Art and music in the creative arts department.

Wikis and blogs were also frequently used especially for discussions and assignments. Some instructors relied on wikis and blogs that are found in the Blackboard and Canvas learning management systems. This is consistent with a study carried out by Seaman and Tinti-Kane (2013) who found out that wikis and blogs were frequently used for both individual and group assignments.

Through social media applications such as Instagram, Flickr and YouTube, as noted in the results section, instructors were able to provide guidance in a visual way. There are examples where instructors provided guidance on how to solve complex issues using YouTube videos such as solving equations.

The fact that social media applications such as Blogs, Wikis and Google+ organize the information neatly was one of the characteristics that appealed to instructors for providing guidance, stimulus and eliciting performance. Similarly, instructors cited using these social media applications to organize group activities.

When it comes to assessment, the instructors heavily relied on the institutional learning management systems and more so on the rubric tool and the grading and assessment tools. The instructors were reluctant to use social media for assessment except for formative assessment. However, some social media activities were awarded points that were included in the grades depending on the activity.

Most instructors used LinkedIn for the purpose of application, retention and transfer of learned information. This is where learners created LinkedIn accounts and use them in real life settings or were required to view how others have used the application.

Research Q2. How does instructors' use of social media relate to Gagne's Events of Instruction?

Although the instructors may not have necessarily planned the instruction using Gagne's Nine Events of Instruction, after carefully sorting their responses, it was apparent that their instructional activities using social media were within Gagne's Nine Events of Instruction.

Most instructors use social media to gain learners attention and to provide content to the learners. Specifically, they used YouTube to gain learner's attention. YouTube was used in relation to Gagne's learning events such gaining attention. Examples in the result section that show instructor using YouTube to set induction with the purpose of giving learners stimulus to ensure reception of coming instruction (Zakharov, 2012).

Instructors used YouTube, wikis and blogs to provide content to the learners. This is where the learners were required to read and respond to blogs and wikis. Selected YouTube video clips are also used to provide content to learners.

The use of social media such as Twitter, YouTube, wikis, and blogs elicited performance through creation and sharing of information. This enabled the learners to become creators of information rather than passive consumers of information (Heather & Friedman, 2008).

As illustrated in the results section, social media applications such as Wikis and Google doc, were used to elicit performance through collaborative writing. Blogs and YouTube were also used in many instances to elicit discussions and share information. This collaborative aspect

of social media made learning more active placing control of learning into the hands of learners themselves (Li, Ingram-El Helou, & Gillet, 2012).

Feedback is one of Nine event of instruction by Gagne. The active nature of social media enabled efficient ways of giving and receiving feedback. For instance, instructors used Twitter due to its brevity and instant messaging capabilities making the giving and receiving of feedback swift. Similarly, this swift and synchronous characteristic were also found in the use of Blogs and Google+. Twitter was also used by instructor for the purpose of formative assessment a component also found within Gagne's events of instruction.

The participants' response indicated that they used social media in relation to Gagne's events of instruction with purpose of breaking the monotony of teaching content and additionally making learning more fun. Several instructors responded that they used social media to deliver stimulus in a more 'fun way' as opposed to the traditional 'boring' way of delivering content. A study carried out by Balakrishnan, Liew, and Pourgholaminejad (2015) revealed that students from higher learning institutions are more receptive to the idea of using social media enabled tools for education purpose and to enhance learning.

The data revealed, there was not much in instructor's responses regarding Gagne's event on assessing performance as compared to other Gagne's other event of instruction. Several participants responded that they used rubrics in learning management systems such as Blackboard and Canvas. Additionally, social media applications such as Twitter were used for formative assessment. Instructors also responded that they awarded grade points for participating in the social media activities.

The participant's responses demonstrated the use of social media to present stimulus and provided guidance through problems-based learning (PBL). There were several instances where

80

the instructors used YouTube, wikis and blogs for the purpose of problems solving (Stochlmann, 2012).

A careful look at the participants' responses revealed that most used different social media applications for different Gagne's instructional events with the aim to foster learner engagement. According to Hieberger and Loken (2011), learners are highly engaged through social media in ways that transcend traditional activities. This is also revealed by the numerous times instructors mentioned 'to engage' in their responses.

The instructors who indicated they did not use social media for instruction cited the issue of integrity of submission and privacy the through social media as the main drawback of using social media. This is in accordance with a study carried out by Allen and Seaman (2014). However, most instructors used social media on activities that prudently avoid compromising their privacy and that of the students and highly depend on institutional learning management system on sensitive information such as grades.

Results showed that the use of social media is based on instructor decision and that institutional support was of least concern to the instructors.

Lack of comfort and familiarity of using social media was also mentioned by instructors as hampering the use of social media for instruction. Additionally, there were instructors who according to the survey and emails were totally against the use of social media for learning.

The data revealed that there was no significant difference in the use of social media for instruction across gender. Although an earlier study revealed that 68% of all women use social media compared to 62% of all men (Perrin A. , 2015), there was no significant difference in use for instruction across gender.

Concerning the use of social media for instruction across university research levels, data revealed no significant difference in the use of social media between the high research universities and the doctoral research universities as categorized by Carnegie classification of universities (Carnegie, 2013).

The more established professors had a higher tendency of using social media for instructions than the lecturers, adjunct professors and visiting professors. This is an indication that as the professor become more established they tend to look for more creative ways teaching. This consistent with a study by Aschenbrener and Terry (2010) who found out that more experienced instructors exhibited more creative teaching behavior. Additionally, there was higher frequency of social media use by older than the younger instructors.

The use of social media varied in departments with the creative arts and the education department having the highest frequency of usage while mathematics and engineering had the lowest frequency in usage.

Conclusion

The study revealed that about 30% of instructors used different types of social media for instructional purposes. Although the instructors may not have necessarily used Gagne's events of instruction guideline to plan or design instruction, it is clear from the study that their teaching activities related to Gagne's Nine Events of Instruction. After carefully analyzing the data, it was evident that instructional activities designed and implemented by instructors relate to Gagne's events of instruction. The use of social media enables the learner to become producers rather that passive consumers of content. Social media for instruction necessitates instructors to put extra time and effort to make them work as intended. Different types of social media applications were ingeniously used by instructors to achieve the course objectives. Although the use of social

media has surged in the fields such as journalism, politics, marketing and entertainment, its use in education for instruction has continued to lag. The lag in use for instruction could be attributed to concerns of submission integrity, issues of privacy and the ample time taken to design instruction. However, some instructors have devised ingenious ways of using social media for instruction in productive ways that meet learning outcomes circumventing around the issues associated with social media. The use of social media for instruction has pedagogic benefits that allow learners to become producers than mere passive consumers of content. If the benefits of using social media outweighs the drawbacks like in any other teaching activity, then it's worth using for instruction.

Limitations

The finding of this study did not represent the views of all professors in the United States universities. The generalization was limited to professors from the Southeastern region within six departments from universities that were categorized as having high research activities and doctoral research activities.

Although the sample data of 240 participants is enough to conduct research and draw meaningful findings, a larger numbers would provide more accurate data. Despite targeting a large numbers of instructors and sending reminders, participation was lower than I anticipated.

Although instructors selected using different social media application, some did not provide information on how social media was specifically used as required. Some instructors provided scanty information.

Implications of the Study

Although there are many studies on how instructors use social media for personal and professional purpose (Seaman & Tinti-Kane 2013), there is limited research on how college

instructors use social media applications for the purpose of instruction in higher education. This study investigated the specific social media applications being used for instruction. Secondly, it explored the various ways instructors are using social media for instructional activities. The study contributes to the knowledge and understanding of the use of social media for instructional purposes in higher education by college instructors. It will also become a resource that can be used by contemporary and future educators aspiring to use social media for instruction.

The study also outlines the various ways in which instructors use social media for instruction thus becoming a resource of instructors contemplating on using social media for instruction. This will also be resourceful to some of the instructor who according to participants' response were wondering how social media can be used for instruction.

The study discusses the various ingenious ways used by instructors to integrate social media to the teaching and learning activities. This will provide more ideas on how to creatively use social media for instruction.

Social media applications are relatively new and have continued to gained impetus and popularity in many sectors such as marketing, mass media, politics etc. However, few instructors are using social media for instruction. This study contributes to the knowledge, understanding and awareness of social media use in education with the hope of encouraging purposeful and creative use of social media for learning.

The study also contributes to understanding how social media can be used in the contemporary times with people opting to online and blended learning environments. Social media offer valuable tools that facilitate collaboration among the students and the instructors. Additionally, the study will be resourceful to instructors considering use social media for instruction in the synchronous and asynchronous online learning environments and networks.

The use of Social media for learning empowers learners to become producers than inactive consumers. There are various examples and ideas given by respondents of using social media for instruction in ways that requires learners to become producers than mere consumers of content. The use of social media for instruction enables active learning.

Recommendation for Future Research

Although the study was able to establish the various types social media application used, how they are used in relation to Gagne's events of instruction, there is a need to conduct a study to establish how instructor evaluate or assess the effectiveness of social media learning activities.

Furthermore, the study established from the instructor's response that using social media entails working an extra mile in making the social media work as intended. There is a need to conduct an empirical study on the motivations that drive instructors into using social media for instruction despite the odds of putting extra time and work and even defying the privacy and other issues that go with social media.

In addition, there is a need to carry out case studies on how instructors use social media for instruction on specific learning outcomes. This will give details on how they devise social media learning activities to meet learning outcomes.

There is a need to carry out a study on the instructor's attitude and learner perception towards the use of social media in higher education. This will give insight on the instructor's and the learner's perception of the use of social media for instruction.

Finally, there is a need to conduct an empirical study on adaptation of social media by instructors into the teaching and learning process. This will help understand the social media adaptation across age, gender, academic departments, and instructors teaching rank. This will

also give an insight on the factor affecting social media adaptation for instruction in higher education.

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Appendices

Dear Professor,

We (Terence Ahern, PhD., associate professor, and Benson Njoroge a doctoral candidate at the College of Education and Human Services, West Virginia University) are conducting research on the use of social media in teaching and learning. Please help us to understand the use of social media by participating in this study.

We are aware of the value in collecting participant-driven data and welcome you to answer questions, rate statements and write brief responses. It will take 15-20 minutes to complete the survey. After completion, you can participate in the $25 gift certificate drawing, where you stand the chance of being one of ten winners.

Participation is entirely voluntary. The issue of confidentiality is of utmost important to us. In fact your response on this survey will be completely anonymous, meaning that there will be no information collected from the survey that could possibly identify you.

If you have any questions or concerns, please do not hesitate to contact us. You will have the opportunity to request our results be emailed to you.
Terence Ahern, Ph.D. (304) 293-3804 or teahern@mail.wvu.edu
Benson Njoroge, (304)293-8809 or bnjoroge@mix.wvu.edu
For information regarding you rights as a research participant, you may contact the Office of Research Compliance at (304) 293-7073.

Thank you
Sincerely,
Terence Ahern, Ph.D.
Principal Investigator

Benson Njoroge
Co Investigator

Gender

- ○ Male
- ○ Female

Age

- ○ 34 - Below
- ○ 35 - 44
- ○ 45 - 54
- ○ 55 - Over

Ethnicity

- ○ White/Caucasian
- ○ African American or Black
- ○ Hispanic/Latino
- ○ Native/American
- ○ Asian
- ○ Other (Please specify)

Affiliated College or department

- ○ Geography
- ○ Arts
- ○ Biology
- ○ Mathematics
- ○ Education
- ○ Engineering
- ○ Other (Please specify)

What is your academic title?

- ○ Professor Emeritus/Emerita
- ○ Professor
- ○ Associate Professor
- ○ Adjunct Professor
- ○ Visiting Professor
- ○ Lecturer
- ○ Assistant Professor
- ○ Other (Please specify)

I have been teaching students for...

- ○ 2 years or less
- ○ 3 -4 years
- ○ 5 - 6 years
- ○ 7 - 8 years
- ○ 9 years or longer

Have you used social media for instruction in a course that you have taught?

- ○ Yes
- ○ No

Choose the social media you used for each instructional event

	Facebook	Twitter	YouTube	Wikis	Blogs	LinkedIn	Google+	Instagram	Podcast	Other
Gaining learner's attention	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Informing learners of the learning outcomes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Setting learner's expectation on material to be taught	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Stimulating recall of prior learning	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Asking learners about their understanding of previous concepts	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Providing content to learners	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Providing guidance to the learners	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Giving assignments to learners	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Use for collaborative group projects	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Use for individual projects	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Requiring students to share information	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Requiring students to create information	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Use the purpose of discussions	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Informing the student that they did what they were supposed to do (Confirmatory feedback)	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Giving remedial feedback	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Providing students with suggestions and recommendations	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Providing feedback on assignments	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Asking questions related to content	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Requiring learners to provide feedback to each other	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Giving quick feedback to the class	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I assessed the social media I used for instruction	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I assessed social media use during the teaching process	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
I assessed the used of social media at the end of instruction	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Provide opportunity for my learners to apply knowledge they learned	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

You responded _____when asked about_____, please describe how you did it in more details

What type of course did you teach using social media?

☐ Face to face course

☐ Online course

☐ Blended course

What level of students did you teach using social media?

◯ Graduate students

◯ Undergraduate undergraduate

◯ Both graduate and undergraduate students

How much of a concern are the following with regard to your use of social media for instructional purpose in your courses?

	Not important	Somewhat Important	Important	Very Important
Privacy concerns	◎	◎	◎	◎
Integrity of student submissions	◎	◎	◎	◎
Not supported by the school's Learning Management System (LMS)	◎	◎	◎	◎
Lack of support by the department/Institution	◎	◎	◎	◎
Social media are difficult to use for instruction	◎	◎	◎	◎
Inability to assess the social media activities	◎	◎	◎	◎
Concern about grading and assessment policy	◎	◎	◎	◎
Concern about learners wasting time in social media	◎	◎	◎	◎

Do you have any other concerns about using social media for instruction that are not listed above?

May I contact you with follow-up questions?

◎ Yes

◎ No

Please provide your email address below if you want us to send you the results.
Note that email for getting the results will be separated from individual participants' survey responses.

Thank you for completing this survey. We truly value the information you have provided.

If you would like to participate in the $25 gift certificate drawing, please provide your email address by choosing 'Yes' in the question below. Five winners will be randomly selected. Please not that emails for the drawing will be separated from individual participants survey responses.

Would you like to participate in the $25 gift card?

○ Yes
○ No

Please provide your email to participate in the $25 gift card