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Student Experience in a Blended Learning Model

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Abstract

As blended learning becomes the norm in higher education, social software creates new environments where students communicate and learn, such as online discussion or blogs. However, previous research has not presented a specific model to explain how to use social software for facilitating student learning. In this study, the blended learning model was created based on Kolb's experiential learning cycle, Vygotsky's social interaction theory, and Palmer's concept of learning community. Facebook was used as the communication tool, and the blog tool within Blackboard was used as a content creation tool in order to understand the application of social software in student learning. Twenty-three students participated in this environment based on the blended learning model, and nine students were interviewed in order to generate significant themes from their learning experiences. The findings of this study were that the blended learning model provided a place where students could respond diversely in rich social interactions using advanced technological modalities with other learners and teachers in order to learn more deeply about one focused subject.

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Chapter 1

Introduction

Computers and Internet-based technology are changing the way people play, work, and learn today. Bill Gates, Chairman of Microsoft and Co-Chair of the Bill & Melinda Gates Foundation, believes that educational technology may make education more accessible, available, and affordable (Young, 2012). More specifically, educational technology can reduce educational costs and increase accessibility, while also transforming the teaching and learning process through developments such as Web 2.0. Web 2.0 provides a virtual place where students collaborate and discuss their ideas using a variety of means, such as links, pictures, and videos. Moreover, in this virtual space, students not only access knowledge but also create content and publish to it. Likewise, Web 2.0 introduces two dimensions in the use of educational technology: gaining information and developing the knowledge to distribute to the content (Sinclari, 2007; Kamel et al., 2007).

Knowledge and understanding of practice in the use of Web 2.0 tools are improving within the educational environment. Through the introduction of social software tools, Web 2.0 can help create different opportunities for interaction in the classroom—a three dimensional teaching and learning experience: an instructor to students, students to students, and students to an instructor. Thus, Web 2.0 could be called a multi-dimensional teaching and learning environment.

Web 2.0 provides a value-addition in higher education because the social software creates learning communities (Anderson, 2007; Bughin & Manyika, 2009). Through the use of social software, students can increase not only the interaction between each other, but create opportunities for sharing ideas with files, pictures, and links. These features provide opportunities for collaborative learning in terms of forming communities (White, 2007).

However, the primary purpose of social software is for digital social interaction, rather than educational purposes. Despite social interaction being the primary purpose of social software, researchers have studied other applications within the educational context, most often focusing on the interaction between students and their instructors. For example, Facebook, the most popular social software application, may encourage the collaborative learning of students because many college students are familiar with the social software tool (Ellison et al., 2007; Hurt et al., 2012; Lampe et al., 2008). Moreover, over 50% of college students have used Facebook to communicate with their peers for educational purposes (Salaway et al., 2009). Additionally, one fourth of students have used social software to learn better in their classroom lecture (Smith et al., 2009).

From this perspective, it would appear that the use of Web 2.0 tools should have led to educational innovation in the online learning environment because of the opportunities provided for increased interaction, but many researchers have found that Web 2.0 tools failed to reach their potential effect for student development (Allen & Seaman, 2008; Canadian Council on Learning, 2009; OECD, 2005; World Economic Forum, 2008).

In the educational context, online environments can provide a user-friendly space

where users share their ideas anytime and anywhere to learn better. Because of these strengths, online environments have the potential for creating innovation in higher education; yet, innovation has been slow to develop because learning, such as improved interaction between teachers and students, cannot be solely supported via educational technology (Kirschner, 2012).

The Advent of Blended Learning

As the use of Web 2.0 tools has expanded, blended learning environments, including both online and face-to-face pedagogies, are becoming more accepted in the educational setting because students consider blended learning supported by educational technology as a crucial part of learning tools (Dahlstrom, 2012). The advent of the blended learning environment opens a new era where the best strengths are adopted from both online and traditional face-to-face education. According to the EDUCAUSE Center for Applied Research, 70% of college students answered that blended learning is an essential part of their learning process. Moreover, 64% of college students think that educational technologies improve the level of teaching skills (Dahlstrom, 2012). Currently, from an early age students are exposed to a new educational environment that blends traditional and Web 2.0 learning communities. Undergraduate schools at public, doctoral institutions provide many opportunities for blended learning as one of their course options (Dahlstrom, 2012).

The Role of Social Software in the Learning Community

In terms of the learning community, social software creates virtual spaces where people of similar interests gather to communicate, share photos, and discuss ideas with one another (Boyd & Ellison, 2008; Raacke & Bonds-Raacke, 2008). Because of these

unique characteristics, social software is being studied by researchers in order to better understand the potential for Web 2.0 tools to impact students' learning. Moreover, researchers have studied student use of social software where students discuss content with capable peers in formal and informal situations (Greenhow and Robelia, 2009a, 2009b; Madge et al., 2009; Selwyn, 2009). Thus, social software provides not only a change of medium to express thoughts and ideas but also provides social connection with others based on their interests.

In Vygotsky's social development theory (1978), the learning process takes place in students' social interaction with others in a cooperative manner. Applying social-cultural theory to the educational context, social software may be beneficial in the learning environment because of the user-friendly interface and ability to connect collaboratively with others outside of the traditional classroom. The efficient use of educational technology can be successful depending on the degree of students' acceptance and use of a specific technology (Raaij & Schepers, 2008). In this particular view, social software introduces new possibilities to enhance teaching and learning skills with more collaborative behaviors.

Two of the more commonly used social software applications in college are blogs and Facebook. Among college students, Facebook is widely used which provides opportunities where students can interact with peers in the classroom in new and different ways. Many researchers have researched the efficacy of using blogs in an educational setting (Boas, 2011; Chandra, 2010; Cuhadar, 2010; Harland, 2011). These kinds of social and participatory tools provide a vibrant platform to allow students to socially interact with one another outside of a classroom environment that breaks down the

boundaries between formal and informal learning (Conole, Galley, & Culver, 2011).

Problem Statement

Even though many educators and students believe that blended learning is as efficient in student comprehension compared to solely online or traditional classrooms, previous research has primarily focused on the number of students using electronic devices, and faculty and student usage of electronic devices (Dahlstrom, 2012). The collected data indicates how much students wish to use smart devices and software or hope teachers will apply them in the classroom (Dahlstrom, 2012). Using email, Blackboard, video materials, or social software could provide supplemental delivery of content and instruction but not replace the classroom as the primary medium of teaching and learning. Moreover, the tools themselves do not represent a clear direction in the use of technology in terms of students' learning. In addition, it is hard for educators to know what to use, and they often do not know how to, in terms of technology in an actual classroom. Most researchers have studied relationships among blended learning, student satisfaction, or engagement in the use of social software. However, previous research has not presented a specific model to explain how to use social software for facilitating student learning.

Purpose of Study

The purpose of this study was to examine the perceived strengths of social software with a traditional face-to-face classroom in order to form learning communities. In order to better understand the experience of students in a traditional classroom using social software tools, the blended learning model was developed as a lens to guide the application of the social software tools in the traditional learning context. In the

development of the blended learning model, two aspects of education were taken into account: learning theories and learning communities. First, Vygotsky's social interaction theory and Kolb's experiential cycle provide a foundation for understanding the concept of learning. Second, learning communities inform a structure of learning such as reflective, collaborative, and active learning in interpersonal interaction (Fink, 2003; Hamilton, 1990; Palmer, 2007; Vygosky, 1978; Wenger, 1999). This model provided a framework through which to better understand the application of social software in the learning process. To help provide insight into the application of social software in the learning process, this study attempted to answer the following research question:

- How do students experience the blended learning model as applied to an assignment?

Chapter 2

Literature Review

> A fundamental principle of learning is that "practice increases learning and that there is a corresponding relationship between the amount of experience in a complex environment and the amount of structural change in the brain" (Bransford, Brown, & Cocking, 1999).

Introduction

Computers and Internet-based technology can help the learning process but cannot entirely replace the deep interaction between students and teachers. In this particular view, educational technology called Web 2.0 is utilized to form a learning community, which promotes the learning process not only inside the classroom but also outside of it.

Theoretical Foundation in Learning

According to Vygotsky's theory of distinct social dimension (1978, 1986), learning processes are influenced by three factors: language, culture, and social interaction. Vygotsky divided the distinct social dimension into two different concepts: spontaneous and scientific concepts. In spontaneous concepts, knowledge construction takes place in the life of people based on their experiences. In scientific concepts, learning takes place in more formal systems such as a classroom or through a curriculum.

Moreover, in Vygotsky's social development theory, social interaction profoundly influences human cognitive development. Vygotsky concentrated on the connections

between people and the cultural context where they interact in their own experiences (Crawford, 1996). Human beings use tools as well as improve the tools by combining culture to understand their social environments (Vygotsky, 1978). In terms of Vygotsky's socio-cultural view, interaction in a classroom can improve the students' learning because development takes place in interpersonal relationships and communication.

Thus, humans consciously develop knowledge with more comprehensive and adequate methods between spontaneous and scientific concepts in the construction of social interactive structure by considering their current tools such as speech and writing. In terms of this view, social software is one of the tools that can increase interaction between people.

Structural Foundation in Learning

Defining learning community. Learning communities can contribute to deep learning outcomes in cooperative situations. Teachers contribute to the formation of learning communities when students deeply interact with one another and test their knowledge (Palmer, 1998). This interaction promotes a collaborative learning environment where students interact with peers and teachers, and bring their knowledge and ideas to discuss in order to potentially achieve deep learning. In this process, new knowledge can be understood and internalized better by deep interaction between students and teachers (Vygotsky, 1978).

Defining collaborative learning. Collaborative learning can be defined as individuals working together to deal with problems in a cooperative manner. Traditional collaborative learning takes place when students work together in face-to-face discussion to understand subject matter (George, 1990). Collaborative learning is a way to lead to

reflective thinking, which plays a significant role in independent problem-solving and self-regulated learning (Higgins, Flower, & Petralia, 1990).

In the process of collaborative learning, students evaluate the quality of knowledge and decide how to learn and what they should learn (George, 1990). The main outcome of collaborative learning is reflective thinking that takes place in students' collaboration. Reflection is an essential part, promoting students' development in the application of their knowledge into practice because reflective thinking helps students in independent deeper learning (Biggs, 2011; Salmon, 2002). In cooperative work, students are engaged in a subject by reflective thinking (Hamilton, 1990).

Defining active learning. Active learning takes place when students consciously perceive their actions in the thinking process (Bonwell & Eison, 1991). In passive learning, by contrast, the students receive knowledge without interaction. Active learning consists of two components: experiences and reflection (Fink, 2003). When learners watch something and reflect on it, the experiences and reflection lead students to active learning.

Defining deep learning. Deep learning is based on interactive communication with others. According to Vygotsky, interaction in groups can be helpful in facilitating the learning process, but it is the individual that reformulates and embodies the knowledge. In terms of enhanced interaction, deep learning is related to collaborative learning. Deep learning is motivated by curiosity; conversely, surface learning is motivated by fear of failure.

Deep learning can be developed by conditionalized knowledge and metacognition through communities of inquiry (Weigel, 2002). Conditionalized knowledge only takes

place when students perceive unfamiliar knowledge as worth learning. Metacognition is the capability to think regarding thinking—the art of thinking. Reflection plays a major role in developing thinking skills from conditionalized knowledge to metacognitive knowledge. If it is difficult to absorb the new knowledge due its high level or a lack of schema, learners figure out ways to solve the problem (Bransford, Brown, & Cocking, 1999). Individuals could gain the new knowledge by reading and reflection. However, there are some limitations in recognizing the knowledge from different perspectives. In order to address these limitations, learners need to interact with others in order to gather their perspectives on the knowledge.

Communities of inquiry are the academic environments where students discuss their thoughts on knowledge and develop the ideas with communicative behavior (Wenger, 1999). In learning communities, individuals expand their own paradigms by discussing and debating each other. From this particular view, learning in the lives of students can be achieved in the communities of practice (Lave & Wenger, 1991; Wenger, 1999; Wenger & Snyder, 2000). Reflective thinking is also rooted in these three factors: conditionalized knowledge, metacognition, and communities of inquiry (Wenger, 1999).

Kolb's Experiential Learning Cycle

Kolb and Kolb's (2005) experiential learning cycle uses a holistic approach to explain how pedagogical technology moves from the concept of constructivism to educational practice in learning activities. Kolb's learning cycle consists of mutual interaction between action and reflection while the learning activities are designed to encourage learners to interact with one another. Kolb's learning model combines four components: (1) concrete experience, (2) reflective observation, (3) abstract

conceptualization and (4) active experimentation (see Figure 1).

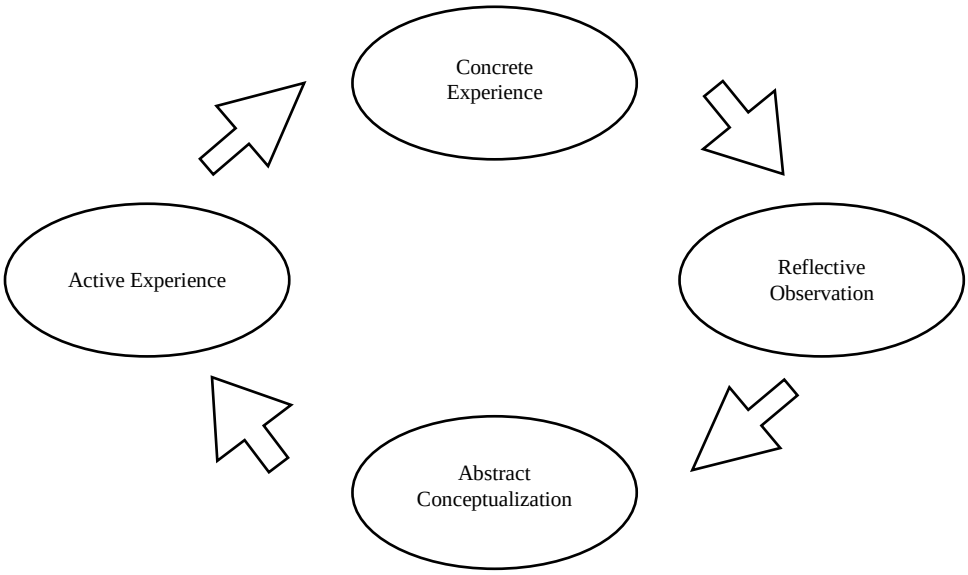

Figure 1. Kolb's experiential learning cycle (Kolb & Kolb, 2005, p. 3).

In the first stage, concrete experience, learning is derived from curiosity in the formal or informal context. In the second stage, reflective observation, learning is a result of reviewing and reflecting on an experience. The reflective thinking that takes place in this stage is a crucial part of deep learning. Educators should be able to create learning spaces where students reflect on what they think and share with others (Boud et al., 1985; Brockbank & McGill, 2007; Moon, 2005). The third stage, abstract conceptualization, is the learning outcome of the reflected experiences from the previous stage. By using course content, students explore other new materials by reflecting on the knowledge in group collaboration as well as assessing information from the Internet. When students are exposed to new knowledge and their ideas are developed in the process of collaboration, more specific learning outcomes are the result. The fourth stage, active experimentation, is the process of applying what has been learned. As students turn what they learn into

practice, this final stage works effectively to apply the main subject matter (Kolb & Kolb, 2005).

Subject-Based Learning

According to Palmer (2007), a great teacher not only delivers knowledge well but also engages students in a complex and interactive community of truth, while an ordinary teacher spends much time delivering data. Such a learning community of the former increases engagement with subjects in pedagogical interaction with other learners rather than just providing lectures or data. In this subject-based learning community, people communicate with other capable learners and share their communal curiosities. This collaborative learning behavior provides more opportunities to look at new perspectives through others' views, instead of focusing on their own limited views.

Defining Web 2.0 and Social Software in Higher Education

In education, Web 2.0 is a computer-based environment where students not only access educational materials but also communicate with each other for collaborative learning. According to Palloff and Pratt (1999), teachers believe there are no significant differences between online education and traditional face-to-face education even though the primary connection of online learning takes place using a computer screen rather than face-to-face interaction. However, although online and traditional education are perceived to be comparable, there are some promising means by which to further improve online education. One of the ways to improve online education is for teachers to understand more completely how to implement learning communities well in the online environment. An effective learning community in the online environment should include these five components: (1) active interaction, (2) collaborative learning, (3) socially-

constructed meaning, (4) sharing of resources, and (5) expressions of support and encouragement among students (Palloff & Pratt, 1999). If a teacher implements even some of these five aforementioned components, the learning community in an online environment should provide a better experience for both the students and the teacher.

Social software provides the technical means by which teachers can implement Palloff & Pratt's five components in the online environment. Through social software such as blogs or online discussions, students and instructors may interact with one another deeply by sharing thoughts and visual materials without space and time barriers. The evolution of social software is a subset of Web 2.0, but communication is more personal because of its popularity and user-friendly interface. Moreover, when students work together by dealing with difficult tasks, their relationships become more important, and the increased interaction motivates students to work more diligently on improving learning outcomes (Chickering & Ehrmann, 1996). This deepening of relationship through the use of educational technology changes students from passive to active learners as well as encourages students to engage more deeply in their classroom lecture and group discussion.

Defining a Blended Learning Environment

The development of social software creates the potential to improve students' collaborative learning opportunities because social software is already deeply embedded in students' lives (Ferdig, 2007). Educators see the blended learning environment as a more accessible and effective means to increase learning outcomes through the use of social software to support the face-to-face classroom setting. In the past, taking conventional classes was distinguishable from taking online courses in terms of space and

time. However, the blended learning environment merges the two settings of the traditional face-to-face classroom and the online environment. The successful blended model exports the process of deep learning from both face-to-face and Web 2.0 environments and imports the learning outcomes into a new blended learning environment (Köse, 2010), while maximizing the use of face-to-face classroom time, provided the activities are pedagogically well-designed. For example, using a blog tool helps students reflect on the classroom lecture and provides more interactive opportunities with peers in college (Dippold, 2009; Williams & Jacobs, 2004).

By providing opportunities to reflect outside of a traditional face-to-face classroom, students better develop their thoughts and are prepared to take advantage of deep learning experiences through face-to-face discussion in the classroom rather than participating in a discussion group without prior reflection. In sum, the blended learning environment is a convergence between online and traditional educational strengths in order to provide the opportunity for maximizing deep learning outcomes.

Research on Social Software

Social software creates learning communities in the Web 2.0 environment primarily using two means: reflective thinking and active learning. When students communicate with peers and teachers through social software, the engagement also creates the space where students bring their own knowledge and examine ideas beyond the classroom. The purpose of using social software in the educational context, more importantly, is to support the learning community by maximizing person-to-person interaction. The Web 2.0 environment provides two well-known social software tools to help students foster deep learning: blogs and online discussions.

Blogs. Blogs, or web logs, were initially used for both individual journals and group collaboration (Kim, 2008). Today, blogs are used as an educational tool to enhance students' development because of the practice of addressing written language skills (Bloch, 2007; Downes, 2004; Kim, 2008; Raith, 2009; Williams & Jacobs, 2004). Many researchers find that blogs are beneficial tools for addressing and promoting learner reflection (Murray & Hourigan, 2008; Xie, Ke, & Sharma, 2008). A new concept of learning may be created through the use of technology because students can join in learning communities outside of a traditional classroom. The learning communities may indeed be supported by students' blog activities (Luehmann & Tinelli, 2008; Sollar, 2007). Moreover, the students' activities in learning communities may increase reflective thinking skills. Blogs provide a web space for students to reflect on their classroom materials and to collaborate with other capable peers in the academic context (Dippold, 2009; Williams & Jacobs, 2004).

Blogs are generally divided into two types based on the number of users: an individual blog (Alm, 2009; Murray, Hourigan, & Jeanneau, 2007; Raith, 2009) and a collaborative group blog (Bloch, 2007; Efimova & de Moor, 2005; Richardson, 2010). These two kinds of blogs promote students' self-reflective or group-reflective thinking on specific subjects. Even though there are many types of blogging social software tools to choose from, the main learning outcomes are hard to distinguish between blogging tools because of the flexible and generic format of the blogging software.

For example, individual blogs are shareable with peers and publishable for everyone online, and other users can leave comments on personal blogs (Dippold, 2009). Students have the opportunity to reflect on other user's comments and to develop content

to share with other students in the course. In the case of a collaborative blog, students' work together, and the collaboration is focused more on discussing a topic, sharing information, and creating an individual or multi-authored document (Murray & Hourigan, 2008).

Online discussion. An online discussion board allows students to begin a topic and leave comments. Students can upload files, links, or pictures on a discussion board and open it with a web browser. Well-designed online discussion boards promote collaborative learning (Dewiyanti et al., 2005). Successful online learning is formed by high authenticity, high interactivity, and high collaboration (Ring & Mathieux, 2002).

Online discussion boards that have roots in Web 2.0 are more user-friendly and easily accessible for group communication than electronic communication tools of the past such as newsgroups and mail-lists. Current online discussion board social software make it possible for students to communicate in a collaborative manner using writing to move beyond the limitations of time and space. In collaboration within the discussion board environment, reflective thinking occurs by individuals posting ideas and giving feedback on the online discussion board with other students. Besides reflective thinking, online discussions have other benefits for their users. According to Bonwell and Eison (1991), active learning takes place when students consciously perceive their actions in the thinking process.

This highly authentic, highly interactive, and highly collaborative online discussion promotes active learning (Ring & Mathieux, 2002). Thus, active learning is promoted by the students' interaction in the discussion in which each person shares his or her own perspective and then engages with others' content, which improves thinking skills.

However, other research has found negative factors regarding the use online discussion boards along with face-to-face discussion (Ellis & Calvo, 2004, 2006; Ellis et al., 2004, 2008). When students use discussion in both environments, they tend not to interact between the two different environments, contributing to a negative perception of the interaction (Bliuc, Ellis, Goodyear, & Piggott, 2010). In contrast, when students consider the online and face-to-face discussion boards as a tool to more deeply understand an assigned topic, they perceive positive learning outcomes (Bliuc, Ellis, Goodyear, & Piggott, 2010). These studies indicate that the combined discussion environments have significantly different learning outcomes depending on students' perceptions.

Summary

The effective learning community in both the online and offline environments embraces both theoretical and structural foundations. With regard to theoretical components, Vygosky's social development theory (1997) and Kolb's experiential learning cycle (2005) emphasize human interaction and experiences in the learning process. With regard to the structural foundation, collaborative, active, and deep learning play an important role in the learning process. In addition, subject-based learning (Palmer, 2007) promotes collaborative, active, and deep learning through the interaction with other capable learners. These theoretical and structural foundations are closely related to critical and reflective thinking skills because different perspectives and expertise are cultivated through collaborative, active, and deep learning and fundamentally influence human cognitive development. Furthermore, current educational technologies, blogs, and online discussions promote interactions with others and resources in an effective learning community. Online discussions provide virtual places

where people communicate each other by sharing information. Blogs allow people to use Internet-based space for individuals to create their own knowledge using a variety of means. Both technology tools, online discussion boards, and blogs are utilized in order to form highly reflective and critical thinking environments. Therefore, combining online and face-to-face spaces creates more opportunities for people to think about a topic, engage not only in content but also with other learners, and consequently, learn more deeply.

Chapter 3

Methodology

Introduction

In order to better understand developments in the current educational environment, this study created a blended learning model utilizing aspects of both traditional face-to-face classes and online spaces. For this study, the purpose of the blended learning model was to better understand the formation and impact of learning in the blended educational context. This process was guided by building three fundamental learning concepts—collaborative, active, and deep learning—into the model. The focus of the blended learning model was not a teacher-centered community, but a subject- or content-centered community with learners.

The blended learning model was primarily based upon two theoretical foundations and a learning cycle: Vygotsky's social dimension and social interaction theories and Kolb's experiential learning cycle. According to Vygotsky, knowledge is formed between spontaneous and scientific concepts. Additionally, knowledge is formed by social interactions with others. By including these theoretical foundations in Kolb's cycle, this blended learning model was substantialized through the integration of a traditional classroom and Web 2.0 social software tools in order for educators to use in practice.

Hermeneutic Phenomenology

Even though blended learning communities exist, understanding of the application

of social media tools, and in particular, Facebook, in the experiential learning process does not. In order to better understand the application of social media technology in the experiential learning process, the blended learning model was developed for the higher education context. As new social media tools such as Facebook develop and impact society and education, it is important for educators to be mindful of how these technologies influence and affect the teaching and learning process.

A hermeneutic phenomenology focuses on the use of in-depth interviews and retrospective reflection of the human experience. According to German philosopher Edmund Husserl, "human beings only know what they experience" (Patton, 2001, p. 105). Moreover, the hermeneutic phenomenological method uncovers a human's experiences made into individual meaning before becoming conscious. In this way, the hermeneutic phenomenological methodology explores how students perceive the blended learning model with its purpose of deeper learning experience rather than using thick description or measuring concrete criteria for comparison with other data.

A hermeneutic phenomenological methodology was applied in this study to gain insight into students' learning in the application of the blended learning model, because phenomenological research emphasizes "discovery, description, and meaning" (Osborne, 1994).

Blended Learning Stages

The blended learning stages were derived from Kolb's experiential learning cycle (Kolb & Kolb, 2005), which includes four components: concrete experience, reflective observation, abstract conceptualization, and active experimentation. The blended learning model was designed to use the best of both the traditional face-to-face and online

contexts, and this model may promote better collaborative, active, and deep learning through the use of social software.

Through the combination of learning environments, the blended learning model included seven stages; (1) traditional classroom, (2) online group discussion, (3) face-to-face group discussion (F2F), (4) traditional classroom, (5) online group discussion, (6) face-to-face group discussion (F2F) and (7) blog activity.

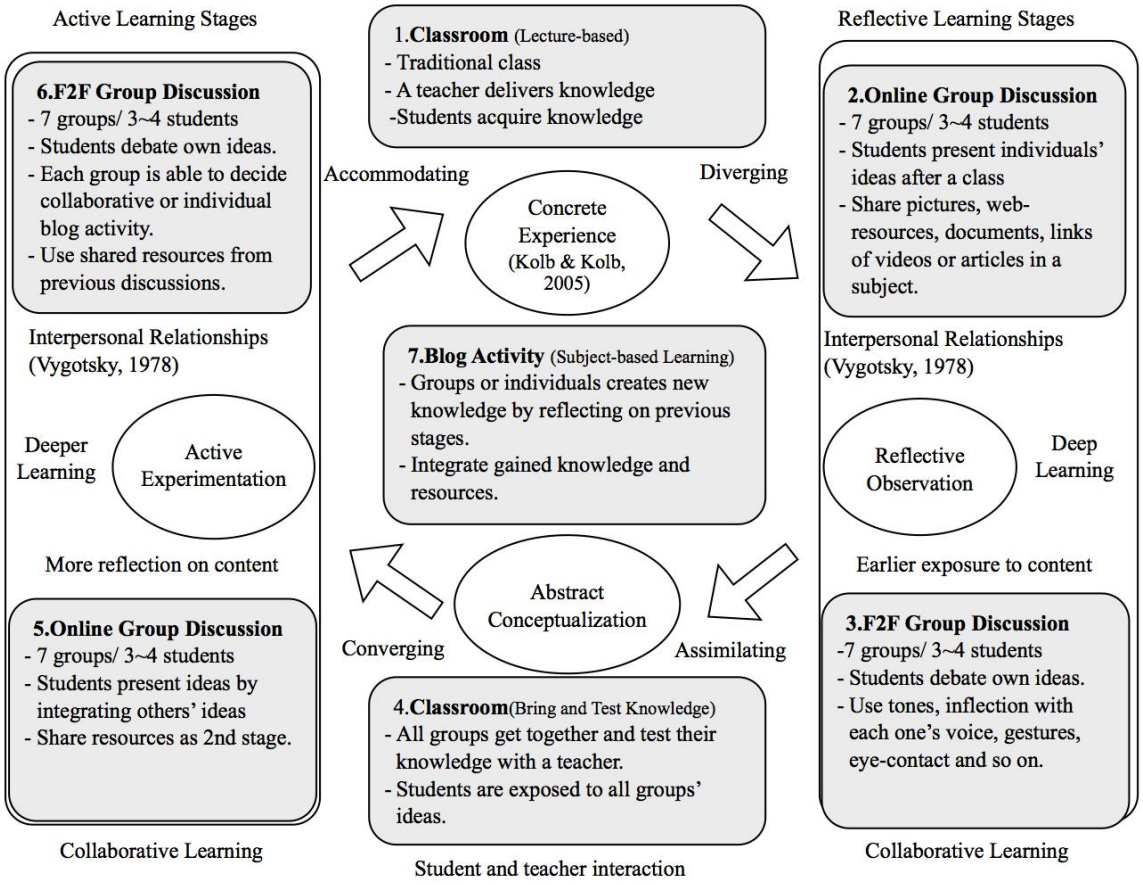

Figure 2. The blended learning model.

In the first classroom stage, students acquired knowledge through a classroom lecture. This classroom was the same as a traditional face-to-face classroom. An instructor delivered knowledge and helped students understand in a traditional face-to-face classroom environment.

In the second stage, the online group discussion stage, students were divided into seven groups, comprised of three or four students each. In each group, students only shared individual thoughts on the subject rather than deeply discussing the topic. The students read others' thoughts and left comments. An instructor was involved in each discussion group in order to receive or answer questions. This second stage was a "ready-to-debate" step for the next stage.

In the third stage, face-to-face group discussion, students in each group met and discussed in the face-to-face environment before a class started. If the online discussion was a place where students simply presented their ideas and read other's thoughts, the face-to-face discussion was a place where students debated others' opinions.

In the fourth classroom stage, all groups met together to share the groups' ideas in the traditional face-to-face classroom. If the classroom at the first stage was a place where students received knowledge, the fourth classroom stage was a place where students brought knowledge from the previous debate and tested those concepts with an instructor. The instructor was deeply involved in answering questions and providing appropriate approaches to subject matter. During the fourth stage, students were also exposed to all groups' problems and thoughts on the subject.

In the fifth, online group discussion stage, students in each group presented individuals' thoughts after the class where they tested knowledge through exposure to other groups. The structure of this online discussion stage was as same as previous online discussion (the second stage), but a deeper learning experience could take place. From the fifth stage, each group developed their understanding of the subject more thoroughly.

In the sixth face-to-face discussion stage, students in each group met and discussed

for the final project, using collaborative or individual blog activities. In this stage, students decided to create an individual or a collaborative blog depending on the consensus of the group. Even though they learned collaboratively, some students wanted to create individual blogs or keep working collaboratively.

In the seventh blog activity stage, each group or single student created new knowledge. Through this stage, students had the opportunity to reflect deeply on the class subject and discussions.

Participants

The study included 23 subjects from an upper-division, business accounting course. The assignment for this study was developed using the blended learning model by the researcher in cooperation with the professor of the course. Most of the students were sophomores and juniors, and one senior was included. The course lent itself well to study as there were many changes in accounting rules and regulations in the industry. The U.S. was in the process of adopting global accounting standards, and there were many debates going on about when that should take place and who should be required to adopt those standards. These topics were conducive to promote student learning by encouraging thoughts about a variety of issues and changes in their future profession. In this study, the students experienced the blended learning model in an assignment lasting ten days.

Methods

All participants were asked to sign a consent form agreeing to an interview for an average of 90 minutes. Nine students were interviewed to record the descriptions about their learning experiences. The interviews took place within a week after the final blog activity. In order to increase interactive conversation, the interviews were held in an

informal place and used an informal process. All description consisted of what they experienced and how they experienced it (Moustakas, 1994).

The participants were asked how social software supported the traditional face-to-face learning environment and their overall experiences (see Appendix A for the Research Protocol). In particular, the blended learning model was designed using specific steps by considering characteristics of social software, such as reflective, collaborative, deep, and active learning, within the framework of social interactions and a subject-based learning community. Through the application of the blended learning model, it was possible for the researcher to understand the meanings and essence of students' learning experiences in the blended learning model by focusing not only on the stages of the learning model but also on the students' learning.

The collected data was analyzed independently in order to generate a larger, consolidated picture (Tesch, 1990). For this process, the researcher systemized the collected general essence for the emergence of the learning experience and then underlined significant themes to consider the universal structures of students' learning experiences (Moustakas, 1994). The structured themes were gathered and utilized for participants' checking process. Before coding to analyze statements, participants received copies of their interview description in order to confirm the collected data. If errors were found, the researcher asked the participants to correct the mistakes or develop the description with written language.

Once all the descriptions were analyzed and coded as significant themes, participants digitally received copies of the themes derived from their comments. For clarity, participants were allowed to add more comments based on their experiences by

ongoing email correspondence and follow-up interviews, in order that the collected data was analyzed to more closely match participants' intention. This process intended to address the concept from Kockelmans' (1967) statement, "we penetrate deeper into things and learn to see the more profound 'layers' behind what we first thought to see" (p. 30). For confidentiality, all original data and description were not shared with others, and all participants' names were changed.

Chapter 4

Findings

The findings of this study include students' experiences in the blended learning environment consisting of a combination of traditional face-to-face and online environment. A class of 23 students participated in the blended learning environment. Three major themes developed, which included the following sub-themes: easy accessibility, interaction, and deep learning.

From the nine, 45-minute interviews conducted with individual students, several significant themes were extracted. Table 1 explains the codes and includes statements representative of each code.

Additionally, a qualitative research analysis tool, Dedoose, generated co-occurrence themes. The co-occurrence themes were the result of overlapping themes among the variables in the answers of the participants. For example, a student said, "I felt very comfortable to leave comments on others' posts, and that was helpful to interact with other peers." Given the example, the co-occurrence themes present would include easy accessibility and interaction. Appendix B presents the co-occurrence themes that were derived from the coding.

The translation of the three major themes was reflected by co-occurrence themes. There were three significant co-occurrence themes: interaction and deep learning; different perspectives and deep learning; and the use of Facebook and

easy accessibility.

Table 1

Code with Significant Representative Statements

Code	Significant Statement
Easy accessibility	
- comfortableness	I feel like on Facebook, they open more their thoughts. So that was like nicer because everybody was not afraid to say what actually said.
- convenience	I can see what my group members have seen. It was really just to have everything one location instead of having to go to myTaylor and blackboard.
- the use of a smart device	I have an iPod touch. It will be notifying me if someone posts. Instead of sitting there and waiting for there to get on their homework.
Interaction	
- blended environment	I do feel like this helped because we started off with classroom we discussed what we were to discuss. And we went to the online and gave our initial opinions about what was happening.
- sharing information and ideas	It was like five people doing research instead of just one person. So you are able to get one discussion a lot more difference views, and then there were a lot of questions.
Deep Learning	
- different perspectives	We were able to get in-depth in it and look at the topic with different views. In class, a teacher talked about it and then go to Facebook and chat with like a little group.
- stage 5 & 6 of the blended learning model	I was just looking at some of the things…that was we had the best discussion because we knew more what we talk about and we are able to discuss with each other. We were able to know each other's saying and be able to kind of debate or which part was good.

Theme 1: Easy Accessibility Through the Use of Facebook

In analysis of co-occurrence, easy accessibility took place with the following sub-themes "the use of Facebook," "convenience," and "comfortable."

All nine students said that Facebook discussion was more helpful because of easy

accessibility compared to Blackboard or other discussion tools. The students thought that the online discussion was beneficial because there were fewer limitations such as time, space, and schedule with others in order to communicate. Because of these benefits, the students expressed that the nature of this assignment, formed by the blended learning environment, brought a sense of familiarity, convenience, and enabled access via a smart device as opposed to exclusively using a computer.

Seven of nine students thought that Facebook was a more familiar place where they could disagree with others, which may be more difficult in face-to-face discussion. Moreover, eight of nine students felt it less burdensome to do their assignments, because they felt it was easier to use Facebook to share thoughts and ideas rather than written homework.

In a comparison between Blackboard discussion and Facebook, all nine students thought Facebook provided a more convenient place in terms of accessing process because the website did not require typing IDs and passwords, or clicking a mouse to get into an actual discussion board. Furthermore, the students were always logged into Facebook because of their normal social interaction with their Facebook "friends."

Seven of nine students had smart devices such as iPod touches, iPhones, and other tablet PCs, and they said that using these devices might bring more convenience. From their perspectives, their devices made this assignment easier to accomplish because whenever they wanted to check others comments, they could access the discussion board without any additional logging in and logging out of other software. Moreover, the smart devices notified the students when others left comments on their ideas.

Theme 2: Interaction in the Blended Environment

In analysis of co-occurrence, interaction took place with the following themes and sub-themes “different perspectives,” “sharing ideas,” and “blended interaction.”

All nine students mentioned that this blended learning environment could provide more opportunities to interact with other students by sharing information and ideas. The students expressed that online discussions may be helpful to promote outside of classroom interaction. This outside interaction, in turn, supported in-class interaction. There are three different types of interaction: resources, other peers, and an instructor in the blended learning environment. The types of interactions were different depending on the order of the stages.

In the early stages, six of nine students were engaged in finding information and sharing it online. The students individually researched a subject by using the Internet and then shared what they found through the use of interactive links, pictures, and online survey tools. The other three students observed how others approached the topic and followed their example.

In the late stages, it seemed that all nine students could share their thoughts regarding the main topic because they determined where to find the resources and how to respond based on previous activities. All nine students said that sharing ideas might be beneficial for interaction with other peers in the blended interactive environment. Additionally, by reading others’ posts, the students prepared content to bring into the face-to-face discussion.

Six of nine students said that interaction with an instructor might be helpful not only to think about the subject in more depth but also to clarify gained knowledge from previous discussions. The instructor interaction provided an opportunity for the students to

refine their new knowledge.

Theme 3: Deep Learning by Reflecting on Others' Perspectives

In analysis of co-occurrence, deep learning took place with the following themes and sub-themes "interaction," "different perspectives," and "blended interaction."

One of the interview questions asked which stages were most significant in the learning process for the students. Seven of the nine students responded that stage five, the second Facebook discussion, might be the most significant compared to the other stages. Both groups thought that stages four and five were more significant learning stages. Moreover, their answers were focused on the fifth and sixth stages of the blended learning model (see Appendix A).

The students that considered stage five most significant expressed that they learned more on the second Facebook discussion board compared to other stages because all of the information and ideas were accumulated from different perspectives that others shared throughout the previous stages.

The students that answered that stage four was the most significant learning stage mentioned that they could learn better due to being exposed to a whole group discussion and interaction with the instructor in a classroom. The students in both groups, stage four and five, highlighted the benefit from interactively reflecting on the perspective of others in the online discussion and in the face-to-face classroom environment.

Summary

Throughout the blended learning model, the common themes from interviews of the nine students were easy accessibility, interaction, and deep learning. All students felt using Facebook as a discussion tool was much easier as compared to other discussion

tools that they previously used because of its user-friendly interface. Moreover, in the online space, the students felt more comfortable defending or disagreeing with others, because they could support their thoughts with specific information by links. Additionally, those who had smart phone or devices felt support because their devices made it easier to access discussions. On the basis of easy accessibility, the students felt that they had more interactions in both environments, online and offline, compared to a traditional classroom. The blended learning environment could bring more opportunities for interaction of classroom activities, and the students could prepare face-to-face discussion throughout the previous stages: outside classroom discussions in the online environment. Through these increased interactions, the blended learning environment could provide more benefits because Facebook online discussions gathered all resources and interactions with others. By looking at the discussion boards, the students had opportunities to remember the subject, such as what they thought and how others responded. Because of the readiness, the students felt more prepared to initiate face-to-face discussion. This in-depth interaction could then contribute to a deeper student learning experience.

Chapter 5

Discussion

This study explored the potential learning efficacy for social software used as communication and content creation tools in support of student and teacher interaction. In the participants' interviews, the students experienced Palloff & Pratt's (1999) five factors of online learning through the application of the blended learning model, including active interaction, collaborative learning, socially constructed meaning, sharing of resources, and expressions of support and encouragement among students.

Additionally, the students also experienced Palmer's learning community through their participation in the blended learning model. The role of a teacher was to create an environment where students learned actively by applying their knowledge and testing it (Palmer, 1997). Moreover, according to Palmer (2007), a learning community should be centered on the subject rather than on one expert. This environment values a teacher as a facilitator and learners' communication in discussion of the main subject.

In this study, there were three main themes which supported student learning: easy accessibility through Facebook; interaction in blended environments; and deep learning with reflective thinking.

Easy Accessibility Through the Use of Facebook

Today, it is almost impossible to think about education without technology. Over 90% of colleges and universities use IT tools like learning management systems (LMS)

such as Blackboard (Dahlstrom, 2012). Institutions also use web-based productivity software, the usage of which has increased from under 40% in 2010 to 80% in 2012 (Dahlstrom, 2012). Most students had previous experience of using fully online or blended learning environments through blended or online courses. The use of technology in the online environment makes it possible for users to talk with others without the limitations of time and space. In this study, the Facebook discussion using Web 2.0 social software provided a more interactive means of communication because of the embedded user-friendly interface, familiar environment, and more synergistic discussion through the use of smart devices. According to Vygotsky (1997), social interaction is an essential component for increasing human cognitive development. This advanced communication could support social interaction in both environments—online and offline.

First, the Facebook online discussion board was simple but provided more features to encourage social interactivity than traditional online discussion boards. Additionally, the Facebook discussion provided a more convenient user experience, which allowed students to deeply engage in a shared subject. For example, if the participants wanted to share an article related to the subject, they could easily copy and paste the web address of the article into the discussion. Then, the web-tool would automatically share all information such as pictures and a preview of the article with other participants. Moreover, in this study, the participants appreciated that they could create their own survey tool within their online discussion so that peers could respond with an opinion immediately. Furthermore, the participants were able to view how many members of a group had seen their comments on the discussion board. This mutual communication in Facebook promoted the formation of a learning community since learning in the lives of

students can be achieved in the communities of practice (Lave & Wenger, 1991; Wenger, 1999; Wenger & Snyder, 2000).

Second, the Facebook user interface gave participants the opportunity to interact in a familiar environment. The issue of whether the interface is familiar or unfamiliar is essential because the degree of intimacy is directly related to the users comfort with the tool (Hurt et al., 2012). Because of their strong familiarity with using the tool, the participants did not feel the assignment was as stressful as typical homework, but was more like talking with friends. One student said,

> Honestly I agree with the whole Facebook thing. I think that is a good way to approach the online group discussion thing. I don't know--I just thought this was kind of fun, in my opinion. You can ask a question and give a survey, and the survey is done with the group. In my opinion, that was really exciting. I was excited about homework, you know. It was exciting you could get for "Accounting" (class), you know. It was kind of cool.

The student not only used the tool fluently, but also enjoyed learning process even though the class, accounting, was a "dry" subject. Facebook online discussions could provide a pleasure environment, which is important in deep learning (Tagg, 2003).

Along with this familiar environment, some students also felt deeper engagement in their assignment. Moreover, students recognized their need to develop their own thoughts rather than trying to say what they thought the professor wanted them to say. Using Facebook as a discussion tool had the potential to facilitate more critical thinking because the students mindfully responded in online discussion with guidance from the instructor.

Once users come to the conclusion that it is difficult to use a particular tool, the tool becomes a barrier to students, keeping them from deeply engaging in the subject. However, most users do not consider Facebook a complicated web tool because they already use it regularly in their daily lives. According to Facebook statistics, over 700 billion minutes a month are spent cumulatively on Facebook. Approximately, 97% of college students have Facebook account, and 82% of them actively use it by changing profiles on a daily basis (Christofides, Muise, & Desmarais, 2009; Ellison et al., 2007; Ross et al., 2009). For this study, all students already had their own accounts, and only the professor had to create a new account. The users' familiarity with Facebook meant that the participants could use the web-based tool more fluently in their classroom discussion. Their regular checking of friends Facebook statuses encouraged more active interaction with peers in a course when used in a classroom context. The following quote represents one participant's perspective of the importance of students already using Facebook for social purposes, which encourages more active participation in their classroom discussion because they are already logged into and familiar with Facebook:

> I really like the Facebook discussion only because I go to Facebook anyways. It is not going to take me any longer whatever I do. I feel like Blackboard is not as familiar as Facebook. I think that that is true for a lot of people like my age.

Given the high amount of Facebook usage among college students, the familiarity of using Facebook increases the likelihood that students will interact with each other. In addition to the increased likelihood of students interacting with each other, some participants felt a sense of comfort in terms of communication with others. They felt it was easier to disagree with others because they were able to share their thoughts more freely, which is

more difficult in face-to-face discussions because non-verbal communication is removed and arguments can be readily supported with tangible resources.

This sense of comfort in sharing thoughts and ideas may have increased the depth of the discussion because the students did not simply agree with others to save face. However, despite the potential to freely share their opinions, the students' manners were actually more respectful because the online discussion used an interface they were familiar with and could share resources easily.

The students not only occasionally disagreed with their peers, but they supported their ideas with visual comments linking to quality resources. This approach may encourage students to learn better because they were not looking to gain the approval of others but instead were motivated to help the learning process of other students. Thus, the more transparent interaction available via Facebook for classroom discussion may have increased the potential for deep interaction.

Third, having smart devices had a synergistic effect on student learning as well. The participants who had smart devices said that it was very helpful to be able to work on their assignments due to the increased accessibility afforded by the mobile learning environment. One student, who had a smart device said, "I have an iPod touch and I can check on posts. It will be notifying me if someone posts instead of sitting there and waiting for them to get on their homework." Six more students experienced this synergistic effect due to mobile devices, because the online discussion was easily and directly accessible from such devices.

These three benefits of using social software, which are not features of traditional LMS's such as Blackboard, were helpful for the participants to engage in the shared

subject. Facebook provided a familiar and convenient environment for the sharing of resources in class discussion. The added benefit of accessibility via smart devices provided opportunities for more meaningful interaction and synergies in discussion. These three features can be factors that contribute to more interactive communication in a learning community.

Interaction in the Blended Environment

In higher education today, technology plays an important role as a means to support engagement. Two thirds of students believe that technology is a bridge to their institutions, their teachers, and other students (Dahlstrom, 2012).

As mentioned in the previous section, the benefits of using alternative means of discussion helped the participants interact not only in the face-to-face classroom but also outside of the classroom. In the online environment, the participants shared resources that they found interesting and related to the main topic, and the students debated opinions with the knowledge gained from the research process. As a result of this process, the participants' quality of interaction improved in terms of depth and frequency. The improved interactions can be divided into three different types of categories: resources, other students, and the instructor.

Interaction with resources related to the main subject is the first example where interaction changed. In the first stage of the blended learning model, the participants received information from an instructor. However, this was a passive knowledge acquisition process. On the other hand, in the second stage of the learning model, where students interact with information, the learners actively participated in the resource-seeking process under the guidance of the instructor. Moreover, some of the students

highlighted this stage as the most significant learning stage because they felt that their level of comprehension regarding the subject improved from researching the main topic individually. This implied the importance of students' self-motivation in learning.

Second, after the second stage of the learning model where students researched the subject individually, the third stage involved peer interaction, which played an important role in student learning. The learners' interactions took place in both spaces: online and offline. The participants were satisfied with the combination of the two spaces. Before face-to-face discussion, the participants finished research regarding the main topic and gathered information concerning what others thought about the subject. One of the participant's words that support this idea was, "I was not only studying about the topic, but also my peers and their thoughts by reading their posts and comments. It was a great help to start face-to-face discussion." Phrasing it another way, it could be said that the participants knew both the shared subject and other members' thoughts about it and were ready to discuss the topic in class. By looking at these students' comments and their discussion, this step of the interaction with peers helped the participants apply the gained knowledge to face-to-face discussion.

Last, as a continuation of previous steps, interaction with information and peers, the interaction with the instructor and with the whole class supported student learning as well. According to Palmer (1997), a role of a teacher is to provide a place where students bring their ideas and test them with others. As the participants worked through the research-discussion process, they became more familiar with the subject and learned from others. During the process, however, the participants had no easy means of solving problems with their own knowledge or other participants because of a lack of expertise in

ambiguous areas of the subject that they did not know. Because of this issue, the participants considered the stage of interaction with an instructor as essential.

In this process, the participants were exposed to not only the instructor's knowledge but also other groups' thoughts. These three steps provide insight into different interactions that impact student learning.

Deep Learning by Reflecting on Others' Perspectives

As the participants worked through the different steps of the model, they had more opportunity to think and learn about the subject by their own work and others' sharing information, thoughts, and ideas. In the findings, the most significant learning stage was stage five, the Facebook discussion, because the resources and interactions were gathered in the online space, and the participants were exposed to many others' comments and articles. In the interviews, when the students answered the question, "At what stage did you significantly learn?" they stated two major themes: "interaction" and "different perspectives." "Interaction" meant simply sharing information, such as articles, and brief explanations of them. "Different perspectives" meant that the participants compared their own thoughts with others'. Throughout this reflective process, the participants learned from others' thoughts and ideas. One example of why students thought stage five was the most significant included the following statement,

> We had the best discussion because we knew more about what we talk and we are able to discuss with each other. We were able to know each other's saying and be able to kind of debate.

In addition, students showed an interest in other student's degree majors during discussion time. They did not need to ask others directly because by Facebooking, they were able to

determine the majors of others. For example, by taking others majors into account, students were able reflect on how the other major affected the opinions of their classmates.

In this blended learning environment, the participants actively interacted with others, and the ease of accessibility of using Facebook supported their interactions, as well. They also learned together after researching and sharing about the main subject. This interactive communication embraced Palloff & Pratt's (1999) effective online learning environment, which includes active discussion, collaborative learning, meaning making, sharing of information and thoughts regarding it which is supportive, and encouraging others. In online and offline discussion settings, the participants were ready to discuss because they knew not only about topic but also others' thoughts and ideas.

Moreover, feedback from other students appeared to help the students' transition from surface learning to deep learning. The participants learned from a lecture and used it when they conducted research. Then, they used that "gained knowledge" to debate in group discussions. In the final stage, they also created their own blog. This approach could be considered the deep thinking process. According to Kolb's experiential learning cycle (Kolb & Kolb, 2005), people learn from experiences including these four components: concrete experience, reflective observation, abstract conceptualization, and active experimentation. One student described the process of deep learning like this:

> I think that finding information on your own gives you certain kind of learning and then (when you) try to explain that to other people and like writing it down it is certain kind of learning and then when you go, should have to discuss by going back and forth about what you think about things to try to defend your opinion in a smaller group.

This quote implies that the student only learned through Kolb's experiential learning cycle. Moreover, the student' experience may correspond with the process of Bloom's taxonomy: knowledge acquisition, knowledge deepening, and knowledge creation (Forehand, 2005).

Challenges and Limitations

This study was conducted in a traditional college classroom on a campus that emphasizes face-to-face contact and an active co-curricular program. In this particular situation, the blended learning model facilitated the integration of the online and off-line contexts. Even though the blended learning environment was considered regarding each characteristic in student learning, the traditional nature of the classrooms on campus might create difficulties for students adjusting to the new blended nature of the assignment. This project took place for only one assignment over an eight-day period. It may have been challenging for students to adjust to the new nature of the homework assignment due to the complexity of the combination between online and off-line spaces. Because of this complexity, some students said that they had some reservations before starting this assignment because they previously had never used this kind of combination for their learning.

Moreover, interviews took place in one-on-one individual settings. Because of the face-to-face interview format, it may have been difficult for interviewees to present other ideas contrary to the ideas which the researcher was studying. Since the researcher interviewed the participants, there was a possibility that the participant said something positive on the blended learning model rather than mentioning something negative.

Implications and Future Research

Guidance at the beginning of and during the assignment appeared to be a challenge. In order to more fully experience this new learning environment, it would be beneficial to maintain the blended learning environment for a semester with more than one assignment.

Additionally, some of the students would have liked to have had the opportunity to learn the conclusions of other groups while working through the assignment *after* their blog activity. In terms of student learning, it would have been beneficial for students to learn other group outcomes as well as their own group outcome. The fact that they were curious about other groups' final decisions meant that the participants would have had more opportunities to learn about other perspectives.

As stated above, a lack of guidance appeared to be an issue in this learning model. Even though specific instructions were given to the students, the participants were confused as to how to do the assignment. This problem related to the assignment using a different pedagogical model than those to which the students were acclimated. The blog activity, in particular, was not significantly beneficial in terms of learning outcomes due to the attitude of the collaboration group. The participants were not prone to work separately for the blog activity since they worked on discussing the subject together. However, most students said that it would be more helpful if they did an individual blog or presentation.

Even though the ownership of a smart phone increased 5545% from 2004 to 2012, the relationship of devices to academic success is only 37%. Printer and laptop ownership are 84% and 85%, respectively (Educuase, 2012). This study reinforced the potential of using student's mobile devices as educational tools.

Lastly, Facebook has potential to involve students living all over the world, as only 20% of Facebook users live in the United States, with the total number of users resting at over 845 million (Facebook, 2012). In terms of the broad and diverse range of users, Facebook could be used as a tool to create a cross-cultural educational environment by sharing information and discussing ideas with people using a familiar interface (Maher & Hoon, 2008).

Summary

According to Kolb's experiential learning cycle, people learn from experiences, and the processing of the experience is divided into four steps: concrete experience, reflective observation, abstract conceptualization, and active experience. On the basis of Kolb's learning cycle, the blended learning model splits the learning process into four steps: knowledge exposure, discussion with other learners, interaction with expertise, and content creation. Each step incorporated technology in order to take advantage of collaborative benefits not available in the traditional classroom, where the learners actively engaged in acquiring knowledge, and analyzed it for application into discussion in a collaborative manner.

In Vygotsky's social development theory, people learn from social interaction with others in cultural context. In the other words, a student learns throughout the communication process with others based on their social interactions. Accordingly, the blended learning model formed a new type of learning community, which integrated the online and off-line environments. In the learning community, small groups discussion, a whole group discussion, and faculty interaction increased the efficacy of learning by improving the depth of the discussion and allowing for a variety of opinions, which was

supported by familiarity and convenience of using the Facebook discussion tool.

The learning community, foundationally supported by these two theories, made the classroom a place where the students could bring their thoughts and ideas to test with an instructor and their peers. Moreover, the blended learning model incorporated learner interaction as the main function of learning, rather than a traditional, lecture-centered classroom. This blended learning environment started from easy accessibility in order to facilitate increased interaction, and the learners naturally thought about the subject from many different perspectives due to the variety of interactions, encouraging critical thinking and potentially resulting in deep learning.

By integrating all of these educational concepts, learning theories, and current technologies, the blended learning model was created and tested in this study. From student learning experiences throughout the learning model, three closely-related themes emerged. Due to the easy accessibility throughout the use of Facebook, the students may have been more engaged in the assignment because its user-friendly interface provided more chances to interact with others in the shared subject, and this mutual communication brought more interactions to share their thoughts online and offline.

Moreover, comfortableness in an online environment may bring more in-depth quality of discussion. The students could have deeper discussion because they wanted to defend their opinions with specific resources from Internet rather than only their own thoughts. By posting individuals' research and reading others' posts, the students could gain different perspectives. These different perspectives were gathered in online discussion, and the resources were used in face-to-face discussion. By being exposed to others thoughts, students could experience the deep learning process.

As summary, easy accessibility brought more interactions in terms of depth and frequency of interaction, and the advanced interactions allowed the students to have more perspectives to think about the subject. Because of these gained perspectives, the students could have deep learning experiences by going through the blended learning model that embraced benefits from online and offline environments based on learning theories.

Today, instructors in colleges and universities spend significant amounts of time and energy to explain information and help students understand the content throughout lectures, assignments, and tests. Along with this traditional class type, the blended learning model provided a place where students could respond diversely in rich social interactions using advanced technological modalities with other learners and teachers in order to more deeply learn about one focused subject.

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Appendix A

Research Protocol

In phenomenological study, the researcher must go through the process of a hermeneutic phenomenological method. The purpose of the methodology is to specify participants' narrative accounts, which reflects how they interpret and express their experiences through interview process (Polit & Beck, 2004). The following research protocol will lead participants through the blended learning model created only for this research, in order to understand students' learning experience and the phenomenon.

I. Introduction

A. Welcome

B. Informed Consent

1. Nature of study
2. Procedure
    a) Freedom to withdraw or decline to answer
    b) Stop recording if necessary
3. Confidentiality
4. Consent form

II. Interview

A. Overall experience through the blended learning model

1. What learning experience in a classroom did you have prior to the blended learning model?
2. Did you have any reservations or excitement going into this assignment due to the different nature of the assignment?
3. Do you feel organizing the assignment in this manner helped you? Why or why not?

B. General, open-ended questions, follow-up as necessary

1. The blended learning model's seven stages are: the first classroom, the second online discussion, the third face-to-face discussion, the fourth classroom, the fifth online discussion, the sixth face-to-face discussion and the seventh blog activity.
    a) If you think about the blended learning model in terms of stages, stage or stages of the blended learning model was significant in your learning experience?
    b) Which a stage or stages of the blended learning model was not significant in your learning experience?
    c) What was the hardest part or challenged you in the blended learning model?
2. Perspectives on learning community
    a) How did you feel when you worked together in a group?

(1) What was your experience with the Facebook discussions for this assignment? Do you feel it was a better experience than a typical assignment?

(2) When you had the face-to-face class and discussion, what did you experience?

(3) What did you think about the blog activity? Did it help you master the assignment? Why or why not?

3. Impact

a) Has doing assignment in this manner impacted your learning? Why or why not? If so, how?

b) What do you think learning in the future (next 3-5 years) will look like?

c) Did you feel you got to know your classmates better as a result of this assignment?

Appendix B

Informed Consent

The Blended Learning Model equipped by Kolb's Experiential Learning Cycle and Social Software

The purpose of this research is to understand the students' experiences in the blended learning model and their perceptions of learning in higher education.

For this project, you will participate in the blended learning model for eight days and will be asked to answer a series of questions about your experiences in the learning community supported by the blended learning model higher education. Interviews will last approximately ninety minutes, and will be recorded using a digital recorder.

Data will be transcribed and analyzed for major themes. All data will be maintained as confidential; any direct quotes used in the presentation of data will utilize pseudonyms and no discipline-specific information in order to preserve anonymity. Data will be stored in a locked filing cabinet in the researcher's home. Aside from the researcher, no one will have access to raw data. Only the researcher will have access to identifying information. All audio files will be erased upon completion of the study.

There are no foreseeable risks or ill effects from participating in this study.

One benefit you may gain from your participation in this study could include the opportunity to help the university better understand how technology impacts learning in the classroom.

Your participation in this study is completely voluntary and you are free to withdraw from the study at anytime for any reason without penalty or prejudice from the investigator. Please feel free to ask any questions of the investigator before signing the Informed Consent form and beginning the study, and at any time during the study.

****

I, _____, agree to participate in this research project entitled, "Subject-based Learning Community in Blended Learning Model: Students Perspectives on Students' Learning Experience in Higher Education." I have had the study explained to me and my questions have been answered to my satisfaction. I have read the description of this project and give my consent to participate. I understand that I will receive a copy of this informed consent form to keep for future reference.

Appendix C: Code Application