Afghanistan Students' Perceptions of the Use of Online Tools for Enhancing Learning

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ABSTRACT

Online tools play a significant role in higher education where it can be used to assist learning and teaching process. Several studies showed that online tools have the capacity to provide new learning environment and experiences for both teachers and students. There are many learning activities which can be facilitated by online tools such as collaborating, interacting, discussing, sharing, creating and exchanging ideas, information and knowledge. These activities are more student-centered, and can enhance students' learning and thinking skills. Online tools can enhance students' learning approach such as surface and deep approach to learning. Moreover, different level of thinking skills like lower and higher order thinking skills can also be improved when online tools are utilized. In Afghanistan, the Ministry of Higher Education, and other relevant studies indicated that the current learning and teaching approaches in Afghanistan which are rather conventional are not effective for today's students. They need to be revised. In order to move toward applying student-centered and technology-driven, the Ministry of Higher Education encourages all universities to use technology to assist teaching and learning. The purpose of the study was to investigate Afghanistan university students' perceptions on the use of online tools for learning and thinking skills. In addition, the purpose of the study was to find out the barriers of using online tools in learning. Hence, the mixed method research design was employed to collect both qualitative and quantitative data for the study. Researcher developed survey questionnaire and semi-structured interview were the research instruments. The questionnaire was distributed to 217 tertiary students of two public and private universities to measure their perceptions on the use of online tools for learning and thinking skills. Beside this, a semi-structured interview was conducted with 35 volunteered students to support the quantitative data. The results generally show positive perceptions of the effects of using online tools on both learning and thinking skills. The participants believed that utilizing online tools helped them improve their surface approach learning better than deep approach. The participants also believed that their lower-order thinking could enhance better by using online tools than higher order thinking skills. Moreover, they stated that there are the barriers faced by the universities of using online tools for learning. There are implications for the Ministry of Higher Education, universities and educators.

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LIST OF ABBREVIATIONS

MoHE	Ministry of Higher Education
KEU	Kabul Education University
AUAF	American University of Afghanistan
KAU	Kateb University
KU	Kabul University

CHAPTER 1

1.1 BACKGROUND OF THE PROBLEM

In this section, background of the problem is discussed in detail.

1.1.1 Technology in Afghanistan Higher Education

The education system in Afghanistan was affected severely by three decades of civil war and conflicts. As a result of this war, thousands of schools were destroyed, and many students could not attend school. The higher education was also affected (Habibyar, 2009; Ministry of Higher Education, 2012). After 2001, the new government with the cooperation of the international communities started to develop a strategic plan on how to improve the higher education system. In the new strategic plan, using technology and improving teaching and learning have been emphasized.

As an initiative of the strategic plan, the Ministry of Higher Education (MoHE) of Afghanistan encourages the use of technology for teaching and learning, and indicates that the future of teaching and learning should be more technologically driven. Part of the initiatives for MoHE is to work closely with private sectors to investigate the advantages of technology, and then introduce them into the universities. Based on the initiatives and studies conducted by MoHE, it seems that technology as a tool can help facilitate teaching and learning process, and has more benefits than using the conventional approaches (MoHE, 2010-2014). As Barikzai (2009) stated in his thesis, Afghanistan must apply modern and new technologies for teaching and learning instead of using conventional approaches at the universities.

In addition, Beebe's (2010) study on the implementation of e-learning found that despite the contextual challenges faced by Afghan universities, Afghan instructors from five universities namely Kabul Polytechnic University, Kabul University, Kabul Medical University, Balkh University and Herat University were able to appreciate the advantages of the Internet in order to search information, collaborate and interact with peers. Without completely realizing it, the Afghan instructors who attended the e-learning workshops have made preliminary steps toward using the web 2.0 tools for teaching and learning. This indicates the significance of using technology in higher education for teaching and learning, and the Afghanistan instructors proposed that other Afghanistan universities should have the same experience.

1.1.2 Significance of Web 2.0 Tools on Students' Learning Experience

As a global phenomenon, technology can be used to support and assist teaching and learning (Ismail, Almekhlafi & Al-Mekhlafy, 2010; Kim, Kim, Lee, Spector, & DeMeester, 2013), and technology resources have been found to create and facilitate active learning environment for students (Serbessa, 2006). With the advancement of web 2.0 tools, a new teaching and learning environment has been constructed in a way that both teachers and students can take part as co-constructors of learning. Web 2.0 tools such as Wikis and blogs provide a vast opportunity for students not only to be involved in the learning community but more importantly to contribute in knowledge creation and construction (Liu, 2010; Yakin & Gencel, 2013).These tools help students to take active part in online activities and assist them in new forms of construction, interaction and collaboration (Selwyn, 2007). For instance, social media tools empower learners to share information and collaborate with peers to create web content and use it.

Web 2.0 tools are internet-based, and they assist interaction, sharing of information, creativity and self-directed learning experiences (Yakin & Gencel, 2013). Blogs can inspire learners to read and offer feedback, develop reflection and higher-order learning skills (Kumar, 2009). Wikis have been recognized to not only enhance students' writing skills but also encourage them to read, offer feedback and assist collaborative learning in different disciplines. Students enjoy learning when they are

able to give comments, run discussion, read other students' ideas, obtain question and answer on online forum, wikis or blogs (Kumar, 2009). Web 2.0 tools which have multimedia elements such as YouTube and Flicker allow learners to share videos, photos and visual learning materials and categorize information. These tools help students to become self-publisher and self-producer of information and knowledge (Selwyn, 2007). Therefore, web 2.0 tools facilitate collaborative learning and provide numerous learning activities for students to enhance their learning experience.

1.1.3 Learning Approaches for Enhancing Cognitive Skills

A fundamental understanding of the process of learning and its approach is crucial for those who intended to improve activities that can have the potential for effective learning to take place in a setting or environment. Researchers have applied different learning theories which rely on different kinds of learning approaches and outcomes (Bransford et al., 2006). For instance, constructivism and its branches such as cognitive constructivism, social constructivism, and socio cultural approach are powerful learning approaches that can be used in different learning environments. Students' understanding instead of just memorizing and reproducing information is emphasized in constructivism, and this relies on collaboration and social interaction to construct meaning (Tynjälä, 1999). In higher education, desired learning outcome and skills such as thinking skills, team work, communication skills, and collaboration are important elements in learning.

Lee (2014) stated that based on constructivism theory of learning, concepts such as collaboration, online community and interaction cannot be separated from learning. In the community, students learn from each other, discuss meaning and construct knowledge. Interaction, collaboration and learning community provide and facilitate motivation for students to improve their learning. Garrison and Cleveland-Innes (2005) stated that in higher education, it is important and even required to construct a community of inquiry where interaction and reflection are constant; where ideas can be discovered and evaluated and where the process of critical inquiry can be formed and shaped. Different combination of interactions between teachers and students must be

included in the community of inquiry (Garrison & Cleveland-Innes, 2005). A community of inquiry is the combination of cognitive, social and teaching presence. These elements focus on higher level of cognitive interaction and exchange of information (Garrison & Cleveland-Innes, 2005; Kanuka & Garrison, 2004; Lee, 2014).

Cognitive presence refers to the environment where students are able to create meaning through constant interaction and communication. Social presence refers to the capability of students to participate in a community to present their personal characteristics. Teaching presence contains two functions: designing the educational experience and facilitating the learning activities. Teaching presence reflects the construction, combination, and facilitation of social and cognitive presence (Kanuka & Garrison, 2004). Consequently, cognitive presence is an important part of critical thinking, an essential element for higher level of learning and thinking. Garrison (2007, p.65) defined cognitive presence "as the exploration, construction, resolution and confirmation of understanding through collaboration and reflection in a community of inquiry." Based on cognitive presence, learners are expected to move beyond the understanding of concepts or issues to where they need to explore, integrate and apply knowledge and ideas learnt. This requires higher level of thinking.

In addition, Petchtone and Chaijaroen (2012) stated that to study in higher education, students are expected to obtain knowledge as well as higher order thinking skills. The skills can assist students to cope with challenges in everyday life, and use their knowledge in real life. To improve students' higher order thinking skills, universities should train students to extend critical thinking through their learning and teaching processes. Higher order thinking essentially means thinking that occurs in the higher hierarchy of the cognitive processing of Bloom's taxonomy. Bloom's cognitive hierarchy is the most well-known, and is divided into lower and higher order of thinking (Ramos, Dolipas & Villamor, 2013). Bloom's cognitive domain includes remembering, understanding, applying, analyzing, evaluating and creating. Remembering is when students are able to recall, retrieve, describes and list information or ideas. Understanding requires learner to explain ideas or concepts and provide examples on others' shared information. In the applying domain, learners are required to use

information and knowledge in another familiar context and situation. For instance, they can write and share their knowledge with others. Analyzing requires an answer that exhibits an ability to see forms and categorize information and elements and theories into component parts. In the analyzing domain, students can compare and organize their learning project and written works. Evaluating requires judgment and giving reasons on a problem or issue. At this level, students need to judge others' ideas or information and provide feedback. Finally, creating requires generating and producing new ideas and information (Limbach & Waugh, 2010). In this domain, students should be able to create and produce new ideas or information.

For students to participate in higher level thinking activities, they should be able to argue, analyze and evaluate concepts or issues. Higher order thinking skill is, therefore, defined when students are able to transfer ideas and information. This transformation happens when students join facts and thoughts and combine, generalize, explain or reach a conclusion. Manipulating ideas and information by these processes permit students to solve problems, obtain understanding and explore new meaning. Teachers should assist and create a learning environment for students to engage in higher level of thinking and become the producer of knowledge (Ramos et al., 2013). Creative and critical thinking, problem solving and analyzing are included in higher order thinking skills. With high level of thinking, a learner will be able to apply new information or background knowledge and manipulate information to achieve a suitable response to new situation. Higher order thinking is an important element in teaching and learning. As a result, thinking skills and learning are interconnected (Heong, Othman, Yunos, Kiong, Hassan & Mohamad, 2011).

1.1.4 Role of Web 2.0 Tools on Developing Thinking Skills

Technology plays an important role and can support students to enhance their learning and thinking skills. According to Bloom's revised taxonomy, thinking skills can be divided into lower and higher order thinking skills. Lower order thinking includes remembering, understanding and applying. Higher order thinking comprises analyzing, evaluating and creating. Both lower and higher order thinking skills can be

facilitated through the use of web 2.0 tools. Bower, Hedberg and Kuswara (2009) stated that there are a number of web 2.0 applications that can be applied to develop cognitive skills. Blogs, Wikis and social networking sites assist students to develop their lower order thinking skills such as remembering, understanding and applying. For instance, they can use these tools to search for information, exchange and express their ideas, share information and build a discussion.

Furthermore, web 2.0 technologies can help students to develop their higher order thinking skills such as analyzing, evaluating and creating. For instance, blogs and Wikis can assist students to create information, provide feedback and collaborate. Kingsley and Brinkerhoff (2011) indicated that web 2.0 tools provide opportunities for enhancing reasoning skills and critical thinking. Social media such as blogs, Wikis, Facebook and YouTube can support students to express their ideas, create information and knowledge, interact and collaborate (Balakrishnan, Liew & Pourgholaminejad, 2014; Kang, Bonk & Kim, 2011). Moreover, Cole (2009) stated that web 2.0 tools such as Wikis and blogs assist students to become publisher of content. They can use these tools to generate and exchange ideas, edit information shared by others and combine different ideas. In order for a learner to generate useful ideas, they need to use higher order thinking skills such as creative and critical thinking. To conclude, both lower and higher order thinking skills can be facilitated through the use of web 2.0 tools. There are many useful opportunities for students to develop their thinking skills.

1.1.5 Barriers of Using Technology in Learning

The utilization of technology in the educational setting in developed countries and most developing countries is common. However, the use of technology in Afghanistan as a new developing country is rather new. This is because Afghanistan has passed three decades of civil war and conflicts. Almost everything was destroyed, the infrastructure, government, libraries, schools and universities. Beside this, higher education system was also affected (Romanowski, McCarthy, & Mitchell, 2007). Therefore, many challenges such as lack of classes, Internet access and computer facilities which are faced by the universities were because of the war, and conflicts. This

can affect the teaching and learning process especially when university plans to use technology.

There are a number of challenges and barriers for using technology in teaching and learning. Barriers are the obstacles which prevent students and teachers to access and use technology for learning and teaching. Romanowski et al. (2007) reported the financial problems that Afghanistan higher education faces especially in the area of using technology for teaching and learning purposes. The universities face economic problems to provide basic needs such as text books, lab materials and learning materials. In addition, the universities have management problems, shortage of professional technical staff and lack of appropriate learning materials (Baha & Diakoumi, 2010). The majority of Afghanistan higher education institutions cannot easily use ICT and the Internet (Baha & Diakoumi 2010, Beebe, 2010), and appropriate training programs should be provided for teaching and administrative staff in the universities. Romanowski and his colleagues (2007) proposed that the Afghanistan MoHE should look to find and establish universities with Internet and computer. Therefore, these barriers may affect to the teaching and learning process using technology in Afghanistan higher education institutions.

1.2 PROBLEM STATEMENT

Technology is being used in many parts of the world to support and assist teaching and learning. Technology assists teachers and students to search and acquire information and knowledge (Mlitwa, 2007). The increase of Internet technologies and web 2.0 tools has influenced higher education to improve the quality of teaching and learning (Ajjan & Hartshorne, 2008). Web 2.0 tools facilitate and support cooperative and collaborative learning where students take part in knowledge creation and construction (Liu, 2010; Selwyn, 2007), and they are able to have an active learning experience. Moreover, collaborative learning is an appropriate approach to develop students' thinking skills. Therefore, technology in general and web 2.0 tools in particular can provide active and collaborative learning environment where both learning and cognitive skills can be enhanced. However, teaching and learning in

Afghanistan universities are still conventional which means there is more teacher-centered rather than student-centered learning activities.

Afghanistan Ministry of Higher Education (MOHE) indicates that the conventional teaching and learning process is not effective (MOHE, 2010-2014). Majority of the lecturers in universities in Afghanistan are locked in the conventional model of teaching, where teacher plays a central role in teaching and learning. In the class, students are silent, become passive listeners and they listen to the teacher rather than involve in communication and discussion (Beebe, 2010; Hikmat, 2009). This situation has been specifically observed by Karimi (2009) at the Faculty of Education of Herat University.

In the learning process, it is important that students have the chance to practice what they have learned in the classroom. Hence, web 2.0 tools have the capacity to provide numerous useful learning activities for students. For instance, they can use wikis, blogs and social networking sites to share and create information, interact and collaborate with peers. Thus, the use of these tools can enhance students' learning and thinking skills.

Therefore, MoHE expressed that the present teaching and learning approach should be revised and more focus should be given to approaches which are able to assist students solve problem, have more interactions with their peers and teachers at undergraduate level (MoHE, 2010-2014). Consequently, web 2.0 technologies can be an alternative solution to the current problem of teaching and learning approaches. This study therefore, attempts to investigate students' perceptions of using online tools for enhancing learning. Moreover, the study tries to find out the barriers of using online tools faced by the universities.

1.3 RESEARCH OBJECTIVES

This research was carried out to achieve the following objectives:

- To investigate students' perceptions of online tools utilization in enhancing their approach to learning.
- To examine students' perceptions of online tools utilization in developing their thinking skills.
- To explore students' perceptions of the barriers of using technology in learning.

1.4 RESEARCH QUESTIONS

This research tried to answer to the following three questions:

- How do the students perceive the use of online tools in enhancing their approach to learning?
- How do the students perceive the use of online tools in developing their thinking skills?
- How do the students perceive the barriers of using online tools for learning?

1.5 SIGNIFICANCE OF THE STUDY

Though there are a high number of studies which investigated about students' perceptions on the effects of using online tools for learning and thinking skills, studies which looked at the Afghan context is not many. This study therefore may provide insights on the significance of technology in general and online tools in particular for teachers and students in Afghanistan universities. In Afghanistan universities, using online tools for learning and teaching is rather new. Hence, this study may provide the importance of using technology especially online tools for both teachers and students to utilize in order to construct a new learning environment. There are many benefits of using online tools for teachers. For instance, they can utilize online tools to enhance students' learning experiences, and thinking skills through collaboration and interaction.

Finally, this study may assist the Afghanistan Ministry of Higher Education (MoHE) to probe the advantages of technology to improve teaching and learning. Since the MoHE already planned to work with private sectors in order to find out the benefits of technology. In addition, the study also explored the barriers of using online tools in learning. Hence, this study may provide details information on how online tools can be utilized in higher education to assist and enhance learning and develop cognitive skills. There are many advantages of using online tools that the MoHE can investigate and then introduce to the universities for a better teaching and learning experiences.

1.6 DEFINITION OF TERMS

Learning

Learning is relatively permanent change in behavior as a result of time, acquisition of knowledge and experience. Learning is an independent process of acquiring knowledge and information (Pritchard, 2009).

Thinking Skills

The collection of basic and advanced skills that direct a person's mental process, and these skills contains knowledge, dispositions, and cognitive and metacognitive operations (Cotton, 1991).

Lower order thinking skills

Lower order thinking is the basic skills which are required to move into higher order thinking. At this level, learners should be able to search for information, express their ideas, retrieve and recall ideas and knowledge.

Higher order thinking skills

Higher order thinking is the ability of students to analyze, evaluate and create ideas, information and knowledge. At this level, students should be able to assess, produce and construct information and knowledge.

Online Tools

Online tools are a set of online applications which can be used by users for interaction, collaboration and sharing of information. Online tools, which include blogs, wikis, social networking sites, and podcast, allow learners to enhance their learning through sharing, interacting, collaborating, producing and creating information and knowledge with peers (Kingsley & Brinkerhoff, 2011).

Perception

Perception is a belief, idea or feeling of students on the use of online tools for enhancing their approach to learning and developing thinking skills. In this study, the researcher wants to know whether students believe that use of online tools can enhance their learning as well as develop thinking skills.

Constructivism

Constructivism is defined as learning that is a process of creating meaning; it is how learner makes sense of their experience (Collins, 2008). Constructivists claim that learners match their prior knowledge to the existing knowledge in order to make sense of the world. Constructivists also believe that learning is a wish to find the meaning in an environment, and this meaning will be an individual one (Carlile & Jordan, 2005). Based on constructivism theory, learners are responsible for and active to construct their knowledge.

Behaviorism

Behaviorism is a theory of learning concentrating on observable behaviors and discounting any mental activity. Learning is defined basically as the acquisition of new behavior. Learning is a change in behavior and that change in behavior happens as a response to a stimulus. The response leads to a result, and when the result is pleasant and positive, then the behavior change is reinforced (Pritchard, 2009).

Cognitivism

Cognitivism studies human thought processes, and it is the opposite of behaviorism. How people learn, remember and interact are the key elements of cognitivism. Learning is a relatively permanent change in mental association as a result of experience (Pritchard, 2009).

Connectivism

Connectivism is a digital age learning theory developed by George Siemens. Connectivism tries to examine the effect of technology on learners' learning, cognitive development, collaboration and communication. This theory claims that technology importantly influences learners' cognitive skills, the way learners create knowledge, keep and shares learning issues (Siemens, 2004).

Public University

Public university is a governmental university in which the procedures, rules, budget and systems are run and controlled by the government. In this study, Kabul University and Kabul Education University are the public universities in Afghanistan selected for the study.

Private University

Private university is an independent university in which the rules, budgets and systems are run by the university's authority, but the activities are controlled by the government. In this study, Kateb University and American University of Afghanistan are the private universities.

1.7 SCOPE OF THE STUDY

This study was carried out in Kabul, Afghanistan, where there were a number of public and private universities. Of these universities, only four universities were selected for this study. Kabul University and Kabul Education University train greater number of students compared with most of the universities in the country. Kateb

University and American University of Afghanistan are also in Kabul and are in the list of private universities.

Therefore, the scope of this study was only in Kabul. The study focused on students' perceptions which can be helpful for the university and MoHE authorities to understand how students think and believe about the effects of using online tools on enhancing learning and developing thinking skills. Students' perceptions can be the opposite of the university authorities' beliefs. It is always advantageous for universities to have students' perceptions in order to move toward a better learning and teaching environment.

1.8 CONCLUSION

In this chapter, the problem of teaching and learning in the higher education institutions, the importance of technology to enhance students' learning and cognitive skills with related to the previous studies are discussed. The barriers of using online tools in learning were also addressed. The objective of the study was to investigate students' perceptions of online tools for enhancing learning and developing thinking skills. Terms such as online tools, learning, thinking skills were defined. The study may contribute to the MoHE, and universities to explore the benefits of technology in general and online tools in particular for teaching and learning. The study was conducted in the four universities in Kabul Afghanistan.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Technology can improve teaching and learning (Koç, 2005). Internet technologies like e-mail, course websites and news groups have a lot of benefits over conventional classroom knowledge delivery. Over the past few years, the increase of Internet technologies and web 2.0 has influenced higher education to enhance teaching and learning. It is therefore evident that with the help of web 2.0, students are able to access new information, socialize and communicate globally, which contribute to the learning process (Ajjan & Hartshorne, 2008).

Web 2.0 tools can facilitate a new learning and teaching environment and has the capacity to enhance learning experiences. Through the use of web 2.0 technologies, students can communicate and collaborate with their classmates (Saeed, Iahad & Gazem, 2012), receive shared information and create their own knowledge. This is a great opportunity for teachers to enhance students' learning experiences. Students should be guided and supported through activity-based learning in order to enhance learning and develop skills such as creativity and analytical thinking (Aturupane, 2013). This can be achieved through the use of web 2.0 tools. Nowadays, thousands of web 2.0 tools are accessible with the capacity for teachers and students to use in teaching and learning process (Yuen, Yaoyuneyong & Yen, 2011).

In constructivism learning theory, collaborative peer learning is an appropriate approach to promote critical thinking skills (Bell, Zeng & Harris, 2011), and the use of technologies such as blogs and Wikis offers critical thinking opportunities for students. In brief, using web 2.0 technologies such as online tools can support and assist students to enhance their learning and thinking skills.

In this chapter, I discuss and address learning theories focusing on constructivism and connectivism approaches to learning, theoretical framework, importance of technology in education, web 2.0 technologies and Bloom's digital taxonomy.

2.2 LEARNING THEORIES

There are several learning theories with various discussions and implications on how learners learn. Cognitivism, constructivism and connectivism are among the well-known learning theories which are usable for applying technology to facilitate learning and develop thinking skills.

2.2.1 Cognitivism

Two of the prominent figures in cognitivism theory of learning are Jean Piaget (1896-1980) and Lev Vygotsky (1896-1934). This theory was a response to behaviorism, which was the predominant for years (Pritchard, 2009). Cognitivism focuses on how people think, understand and know. Jean Piaget first claimed that learning is a developmental cognitive process, where students construct knowledge rather than obtain knowledge from the teacher (Hammond, Austin, Orcutt & Rosso, 2001). Students create knowledge based on their experiences. Vygotsky extended Piaget's developmental theory, and proposed socio-cultural cognition. Based on this view, learning happens in a cultural environment and contains social interactions. Cognitivists study human thought processes and mental activity, and the way learners obtain and manage their knowledge (Carlile & Jordan, 2005).

CHAPTER 1

1.1 BACKGROUND OF THE PROBLEM

In this section, background of the problem is discussed in detail.

1.1.1 Technology in Afghanistan Higher Education

The education system in Afghanistan was affected severely by three decades of civil war and conflicts. As a result of this war, thousands of schools were destroyed, and many students could not attend school. The higher education was also affected (Habibyar, 2009; Ministry of Higher Education, 2012). After 2001, the new government with the cooperation of the international communities started to develop a strategic plan on how to improve the higher education system. In the new strategic plan, using technology and improving teaching and learning have been emphasized.

As an initiative of the strategic plan, the Ministry of Higher Education (MoHE) of Afghanistan encourages the use of technology for teaching and learning, and indicates that the future of teaching and learning should be more technologically driven. Part of the initiatives for MoHE is to work closely with private sectors to investigate the advantages of technology, and then introduce them into the universities. Based on the initiatives and studies conducted by MoHE, it seems that technology as a tool can help facilitate teaching and learning process, and has more benefits than using the conventional approaches (MoHE, 2010-2014). As Barikzai (2009) stated in his thesis, Afghanistan must apply modern and new technologies for teaching and learning instead of using conventional approaches at the universities.

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CHAPTER 3

METHODOLOGY

3.1 INTRODUCTION

The mixed method research design was applied in this study to investigate students' perceptions of both public and private universities in Kabul Afghanistan on the use of online tools to enhance their approach to learning. In relation to this, this study also looked at how the online tools are able to develop thinking skills. This study further examined students' perceptions on the barriers faced when online tools are used for teaching and learning purposes. In this chapter, the research design, research context, sampling, research instrument, research procedure, data processing and analysis as well as the pilot test are discussed in detailed.

3.2 RESEARCH DESIGN

This study employed the mixed method design which is the combination of qualitative and quantitative approach to collect and analyze data (Creswell & Tashakkori, 2007). In recent years, integrating qualitative and quantitative methods becomes common in research (Bryman, 2006) because mixed method design can provide detailed and comprehensive data in order to achieve the research objectives and answer the research questions. According to Teddlie and Tashakkori (2009), there are four types of mixed method research designs: 1) triangulation, 2) embedded, 3) explanatory and 4) exploratory. This study most appropriately employed the explanatory model, which contains first quantitative data collection followed by

qualitative data collection. This method was used in order to obtain a clearer picture from the quantitative data, and then to use the qualitative data to provide better understanding and explanation of the study in question. Creswell and Clark (2007) stated that the explanatory design (also called sequential design) is a two-stage mixed method design. This design first begins with the collection and analysis of quantitative data and followed by the collection and analysis of qualitative data. In the explanatory design, the researcher recognizes particular quantitative findings that need further explanation.

In order to be able to explore in depth the quantitative data, the researcher then gathered qualitative data from participants who could assist explain these results. In the current study, the main focus is on the quantitative aspects. The explanatory design is recognized as the most easy and straightforward of the mixed method designs (Creswell & Clark, 2007). They further explained the benefits of the explanatory research design as follows:

- The two-stage structure makes it easy to execute because the researcher applies the two methods in separate stage and gathers only one type of data at a time.
- The final report can be explained in two stages, making it easy for the reader to get a clear picture from the findings.

Therefore, using both methods can provide detailed and comprehensive data and interpretation of data. The current study is based on the perceptions of the participants, and there are a number of perception studies which used mixed method design. For instance, Guillot (2003) designed and used the mixed method design to measure teacher and student perceptions of online instructional methodology in higher education. Ismail and his colleagues (2010) used qualitative and quantitative methods to examine the perceptions of both teachers of Arabic and English language courses about the use of technology in their classes in the United Arab Emirates' schools. Similar to this, Almekhlafi and Almeqdadi (2010) used mixed method design to research about teachers' perception of technology integration in the United Arab Emirates school classroom. They used these methods in order to obtain valid results, and detailed and

reliable data. In particular, the details of research design for the current study is illustrated in Figure 3.1.

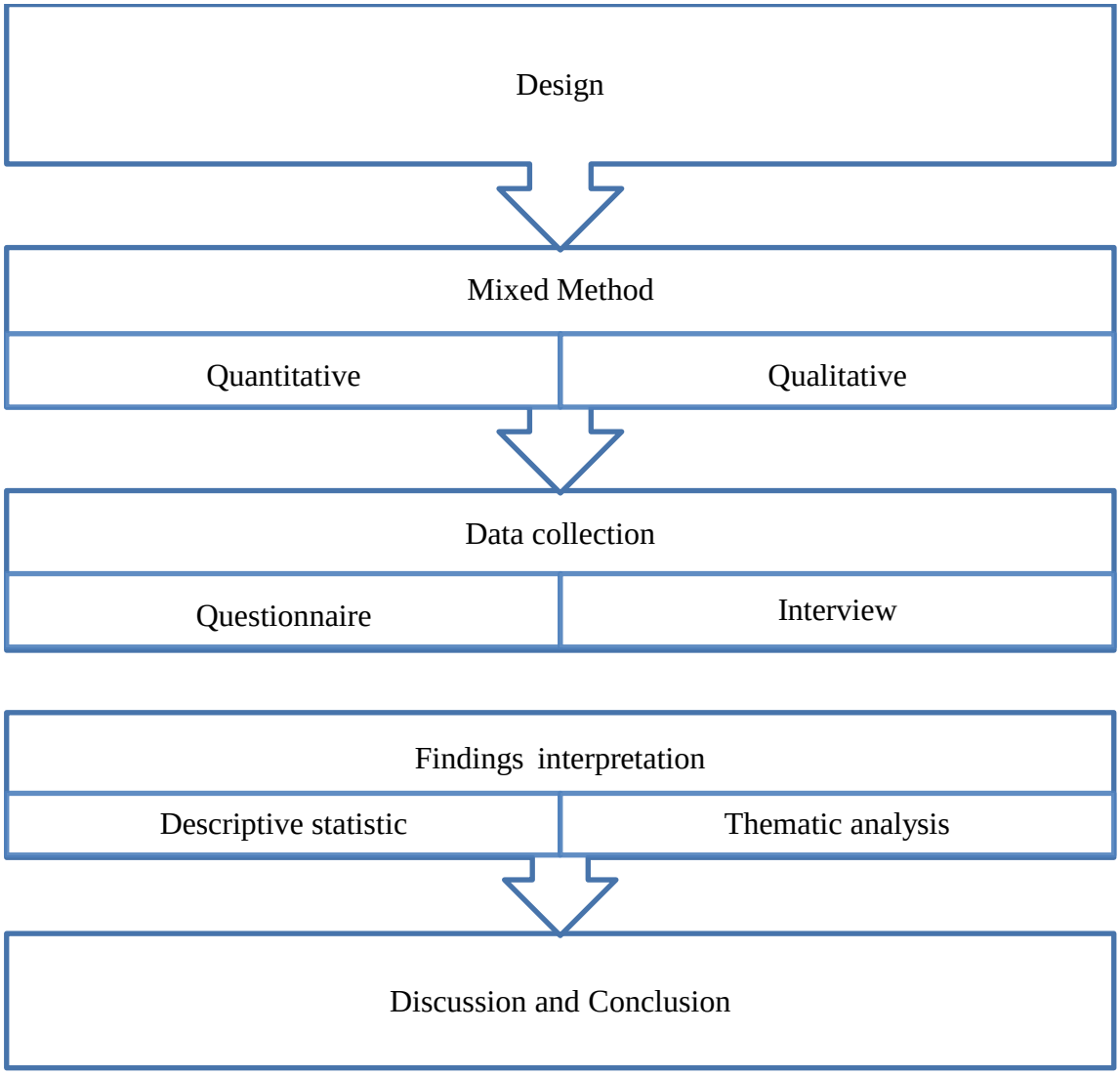

Figure 3.1: Research Design

Figure 3.1 shows the research design of this study. The mixed method was used by administrating a questionnaire and semi-structured interview as research instruments in order to collect quantitative and qualitative data respectively. The data from the questionnaire were analyzed using descriptive statistics, and the interview findings were coded and analyzed to support the findings of the questionnaire.