

# The Utilization of Web 2.0 Tools in Saudi Higher Education: Opportunities and Challenges

Fahad Mohammed Alblehai<sup>1,2</sup>

<sup>1</sup>Centre for Instructional Technology and Multimedia, Universiti Sains Malaysia, Malaysia

<sup>2</sup>King Saud University

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**Abstract** The poor utilization of technology for fostering the current learning and teaching practices in developing countries have dramatically influences students learning. Not with mentioning the challenges associated with the utilization of advance technology that may not accommodate certain usage behavior. In Saudi Arabia, there is a high concern about ensuring a successfully utilization of online learning tools. This include the use of Web 2.0 tools to provide students with ways for boosting self and peer-to-peer learning. However, some challenges may still be imposed by the environmental conditions and students preparations to fully utilize the offered technology. This paper reviewed the current learning practices in Saudi higher educations in order to determine the potential challenges and opportunities from such utilization.

**Keywords** Web 2.0, e-learning, Higher education

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## 1. Introduction

With the ongoing concerns about upgrading the current learning and teaching facilities in higher education of developing countries, it become necessary to understand how students uses various Web 2.0 tools, such as wikis, blogs, RSS, podcasting, and social networking, in their daily lives [1, 2]. Some educators [3-6] suggest that Web 2.0 tools must be utilized in universities because students with a digital native background expect to learn with new technologies. Assessing the potential of university students is essential for developing and improving their learning outcomes [7].

In Saudi universities, teaching is mostly conducted based on a teacher-centered method, which deprives students of the opportunity to communicate with their instructors or create their own group. This situation, in turn, is believed to affect the students' learning characteristics toward the course. This issue was also acknowledged by other scholars, such as Rugh (2002) who pointed out that Saudi university students "are not given enough opportunities to develop problem-solving skills, communicative skills and to use their creativity" (p. 53). Al-Mohanna [8] investigated the lecturers' background to determine whether they had been exposed to communicative approaches of learning. His finding indicates that most lecturers are likely to teach in the same manner that they were taught without considering the adoption of new

technology into teaching. Lecturers in Saudi universities are not given the chance to be exposed to new modes of teaching. The traditional teaching approach primarily focuses on the memorization of learning contents and lacks collaborative activities among students. Thus, online educational tools such as Web 2.0 must be adopted in the current learning process.

Although new learning practices for transmitting information and developing students' thinking have been widely used in other parts of the world, "the lecture format continues to be the dominant mode in Arab educational settings" [9]. Students still utilize textbooks to learn. This learning process provides indisputable facts for those students to use new learning tools. Students in Saudi Arabian universities are rarely called to analyze or critique during the learning process in any manner [10, 11]. However, the most important challenge seems to be the transformation of the characteristics of teaching practice in classrooms to provide an environment that is conducive for the teaching and learning of higher-order thinking skills and facilitate influential learning by students. These challenges also concern educators and other high education decision makers in the Middle East who understand that the demands of the technological age require students to think and solve problems; rote memorization hinders the development of such skills [12]. Previous studies [13, 14] suggest that Saudi universities must adopt the new technologies to measure their effects on the thinking ability and group learning approach of the students. Thus, students are required to contribute in moving the learning and teaching process forward in the 21st century. Researchers like Rugh [13]; Nagappan [15] have suggested that lecturers must use

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\* Corresponding author:

falblehi@ksu.edu.sa (Fahad Mohammed Alblehai)

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modern teaching methods to offer a collaborative learning environment and thus develop the thinking level of learners. Instructors in different Saudi universities hope to have a more precise and efficient understanding of the effects of Web 2.0 tools on the development of students' higher-order thinking skills and group collaborative activities [9].

Ibraheem and John [16] contend that the "implementation of Web 2.0 tools in Saudi higher education is in its very early stages" (p. 2). Web 2.0 tools, such as wikis and blogs, are implemented to address one of the major challenges addressed by the Saudi higher education in providing educational institutions to the rapidly growing student population in Saudi Arabia. With the limited capacity of universities, the Ministry of Higher Education has realized the need for integrating web-based instruction with traditional instruction to tackle this problem [17].

In various educational environments, collaboration is recognized as an essential competency in the current knowledge society. In the new information age, work has become increasingly knowledge-based, interdisciplinary, and complex. An individual will experience difficulty in completing a complicated learning task without collaboration with others. Collaboration involves three levels, namely coordination, cooperation, and reflective communication (Engeström [18]. Some researchers [19-22] have acknowledged that learning within a collaborative group helps deliver better learning outcomes than individual work. However, in Saudi Arabia, most students in groups find that arranging a common time and place for the meetings is difficult and often unproductive because members usually complain that they have other commitments; thus, meetings end abruptly (Alebaikan, 2010).

Utilizing computer distance technology coupled with existing processes benefits all higher education institutions. When practitioners know the value and functions of technology, they can maximize this tool for the public's benefit [23]. This capability would enable the higher education of Saudi Arabia to adapt a new approach for education.

Implementing distance education in Saudi Arabia significantly assists learners in pursuing their learning and improving their skills from anywhere at any time. Online related learning tools are a flexible platform with outstanding features for personal knowledge management that enables users to engage in knowledge acquisition, storage, and sharing. Thus, e-learners who recognize the value of web tools in Saudi universities understand the important change in their knowledge caused by these tools and effect of these tools on their thinking skills.

## 2. Saudi Education History

The Kingdom of Saudi Arabia is experiencing tremendous growth, as the population has tripled over the last 30 years by 33%; the total population is currently 20

million with an additional 5.5 million non-national residents, with a median age of 25.3 years [24]. This population growth has been reported to be the highest in the world and has outpaced the current systems, particularly in the field of education. This growth creates the need to recognize the effect of utilizing technologies along with public programs to shape the expansion in educational that potentially fosters all segments of the learning society [25, 26].

In analyzing the effects of learning technology with regard to e-learning and examining the potential failure of education policy, the existing academic services are determined to be inadequate and incapable of fulfilling the Kingdom's requirements [27]. To attain the educational standards that most countries follow, the Saudi higher education requires the investigation of the effect of a definite learning tool on student thinking. With this goal, Saudi universities are seeking approaches for improving the educational system in which students can process an adequate level of thinking. Thus far, little research has examined the effect of using web learning services on the students' thinking in Saudi universities. In recent years, the Kingdom has been investing in integrating Web 2.0 tools to be regularly used by university students, while simultaneously implementing sophisticated learning systems to improve educational achievement. This action emphasizes that the Saudi government has been preparing to create an educational system in anticipation of the projected future population growth. In updating or renovating the current education system, the Kingdom would have to state the effect of using technology to accelerate changes that could significantly benefit the students, such as the effect of using technology on their thinking skills, problem solving, and communication.

## 3. Traditional and Non-Traditional Lecture Styles

The traditional classroom style of lecture has influenced Saudi Arabia for many years; thus, any other instructional method (i.e., online learning) is almost unheard of. Saudi educators are recognizing the need for a new philosophy on learning and for the adaptation to a more interactive leaning model to fulfill the requirements of the growing number of students.

According to Al-Shehri [28], "Saudi educators acknowledge [the] need for shifting the higher educational philosophy to a more learner-centered model to meet the needs of today's learners" (p. 2). Researchers on educational learning styles and thinking development have asserted that students differently learn and understand.

The three major learning modalities are auditory, visual, and kinesthetic, and these modalities must be integrated in an online curriculum [29]. Combining these modalities would help students develop their thinking level to learn effectively. The evolutionary developments in instructional delivery have included 21st century technology that

supports interactive learning through online instructional tools, thereby allowing students to process higher-order thinking [30].

#### 4. Emphasis on Traditional Instruction

Bringing the level of higher educational standards in the Kingdom into the demands of the 21st century is essential. As [31] indicate, "Students in the 21st century should meet high standards that enable them to demonstrate a sound understanding of the nature and operations of technology" (p. 72). The Kingdom of Saudi Arabia continues to emphasize the traditional classroom style lectures, although the idea of online lectures is becoming acceptable for policy makers [28]. With the recent growth of the country and the increased number of students in universities in Saudi Arabia, a new approach for providing the required learning facilities that will be integrated in these universities as an alternative opportunity for students to learn is necessary. According to Al-Khalifa [25],

"Distance education would appear to be an obvious means of widening access and offering quality and flexibility in programs of choice in most Saudi institutions." (p. 3)

Sait and Al-Tawil [32] argue that the majority of Saudi university graduates are not qualified for important roles in their public work, which is a direct result of their level of education, particularly if they use online tools that do not promote the development of higher-order thinking. Furthermore, the number of skilled professionals in the government sector who provide public services is insufficient because of the lack of qualified educators in the Kingdom to bring the education level into the 21st century [32]. Identifying qualified and educated people to employ is major challenge for the Saudi government. This situation suggests that encouraging students to process higher-order thinking and engage in collaborative activities is an essential aspect of overcoming these challenges.

#### 5. Potential Web 2.0 Utilization Issues

The limited use of blended learning in the university context has motivated the Saudi Ministry of Higher Education to intensify the adoption of ICT in teaching and learning among faculty and students. This adoption includes the provision of adequate ICT infrastructure as well as content development for students pursuing higher education. However, challenges have also been reported in terms of the provision of college education to the rapidly growing student population in the country. In addition, the limited capacity of universities and colleges in Saudi Arabia hinders the accommodation of the large number of students applying for a college education. Thus, the Ministry of Higher Education endeavors to integrate web-based

instruction with traditional instruction in universities to promote collaborative activities. Different universities around the world implement this approach with an emphasis on examining blended learning, its effectiveness, and challenges. For example, Rooney (2003) stated that "blended learning has been identified by the American Society for Training and Development as one of the top 10 trends to emerge in the knowledge delivery industry" (p. 4). Blended learning is believed to positively affect an individual's interaction in learning using technology.

Currently, 20 public institutions of higher education and more than 22 private higher educational institutions exist in the kingdom. In 2009, these institutions registered 666,662 students, and more than 60 percent of these students were female [33]. However, this figure only reflects a portion of the potential enrollment based on the population. Thus, providing additional learning and teaching facilities can promote students while learning different subjects.

To facilitate online learning and teaching, some universities and institutions provide different commercial learning management systems, such as Blackboard, WebCT, and Tadarus (an Arabic-based learning management system). However, the number of faculty members utilizing these systems is very limited. One likely reason for this outcome is that the universities have not experienced the benefits of these tools in developing individual thinking skills while learning (Allamnakhrah, 2013). Although some faculty members are interested in e-learning and are adequately skilled, they are provided with online materials as supplementary resources for their courses. Thus, the current issues in improving education in modern-day Saudi Arabia chiefly include determining the effect of recent learning facilities to help learners solve problems and reflect high-level thinking.

#### 6. Opportunities for the Saudi Higher Education

Ensuring a successfully utilization of Web 2.0 tools can offer several advantages and opportunities to students to share and practice new way of learning. Based on the mentioned issues for Web 2.0 tools in the Saudi context, this paper addresses the following opportunities:

1. Provide the necessary means for students to be able to share and engage in complex learning activity.
2. Enable students to manage different learning resources by allowing them to store and share with other members.
3. Allowing teachers to track and monitor students' progress and provide feedback to while engaging in a collaborative learning task.
4. Open doors for learners to build their knowledge using dynamic presentation and online discussion tools.

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