

# Investigating Student Attitudes and Cultural Origins towards Using Technology as a Learning Aid at a Saudi University

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In contemporary education, technology is of central importance to learning. Universities often use Web 2.0 technologies as they are able to enhance the education experience of their students, who have grown up in a digital environment. Although Web 2.0 technologies are employed by universities across the world, they have been somewhat under-utilised at Saudi universities, particularly in the case of improving the educational experience for female students at Princess Nourah University (Alebaikan, 2010). The character of Saudi Arabian society is conservative and tribal, which may impact on families' inclination to give technological access to female students (Alhareth, 2014). This research paper's objective is to investigate the viewpoints of students towards facilitating Wiki technology as a means of learning, and to put into context the cultural ideas of female students in Saudi Arabia regarding learning through Wiki technology. This aim was realised through the use of a case study, which was conducted over six weeks through a mixed-method approach. The approach involved questionnaires before and after the study period, and subsequent interviews. Following triangulation, the results revealed emphatically that from the 20 students involved in the study, five definitely considered that their family's acceptance of the use of technology had affected how they regarded technology themselves. It was also revealed in the results that out of 83 students, 64 felt positively about Wiki after using it. This was a very informative finding about students who, before working online, had declared that they had felt shy in a classroom environment. Shyness was considered to have been reduced by Wiki by seven out of the 20 students, particularly because it enabled students to enjoy a degree of anonymity.

**Key words:** *Web2.0 technologies, student attitudes, culture, Saudi context.*

## **Introduction**

In the modern world, technology is found in numerous areas and it impacts on the way that we interact with each other, particularly in certain cultures (Yoo, et al., 2011). Web 2.0 technologies are not used extensively in higher education in nations in the Middle East, even though there are many advantages of using this style of learning (AlJeraisy et al., 2015; Alblehai, 2016). Old-style methods such as didactic learning by rote systems in a closed room are becoming increasingly regarded as a way to obstruct channels of communication between students and teachers – and restrict interaction amongst the students themselves – especially if students are shy, or if freedom of speech is limited. This study has focused on Saudi females, who are particularly prone to introversion because of prevailing cultural norms. General modern practice amongst students of this age means that using Web 2.0 technologies is second nature, leading this age bracket to be referred to as *digital natives*. Therefore this situation warrants closer study. How such matters, particularly with regard to using Wiki for learning, affect students culturally can be discovered by conducting interviews that allow students express themselves in words that they are unlikely to use in a classroom situation. Through this technique we can identify any variables of culture that might impact on approaches to technology, either directly from the testimonies of students given at interviews or from later analysis of the interviews. The research will thus act as a bridge between an appreciation of the causes of favourable and unfavourable attitudes to learning through technology in a Saudi environment from the points of view of female students, which is an area that is under-researched. Therefore, it can be said that this paper sets out principally to investigate the perceptions among students of delivering education through Wiki technology, in addition to putting female Saudi students' attitudes to technology in the context of their culture.

## ***Main Objectives***

1. To review the aspects of Saudi culture that may or may not affect female student attitudes towards the use of technology in education.
2. To explore female students' perceptions in regard to their attitudes towards the use of Wiki (as a part of Web 2.0 technologies) as an appropriate environment for learning in the specific culture of Saudi Arabia.

## ***Research Questions***

1. What aspects of Saudi culture could impact the perceptions of female students regarding the use of technology as a learning tool?
2. What are the overall attitudes of students towards the use of Wiki learning as an appropriate environment for learning?

## Literature Review

One of the first things that must be done is to offer a definition of this paper's crucial keywords: *culture* and *attitude*. Farzaneh and Nejadansari (2014) articulate attitude as a way of assessing learning that is either positive or negative; the attitudes of students may explain in new ways how such attitudes could impede learning or enhance it. Agreement with this is provided by Twu (2014), who states that how a student perceives Wiki could be shaped by their culture, beliefs, values and personal preferences.

Hofstede et al. (2010) claims that the definition of culture is a group of attitudes, convictions and norms that are held in common by a band of people and are displayed in their behaviour. The religion of Islam is the bedrock of Saudi culture and all aspects of Saudi Arabian life are shaped by Islam and Saudi citizens' identity as Muslims. For Muslims, life is shaped by Islamic values and precepts (Oyied, 2009). The education framework of the country is guided by Islam, and there are four key pillars: a centralised structure of the education framework; concentration on Saudi citizens' Islamic character; the separation of the sexes; and financing of education by the state (Smith & Abouammoh, 2013).

In prior research on this subject, there have been references to the Saudi education framework's limitations (Grami, 2012), including the teaching programmes (Khan, 2011). The teaching programmes are considered by some as old-fashioned, half-hearted styles administered only by teachers (Grami, 2012), and in which the teachers are seen as the only people suitable to convey knowledge (Khan, 2011).

There are also limitations to the provision of technology in Saudi Arabia (Balubaid, 2013), even though the upcoming generation, like many people of similar age in other countries, see themselves as 'digital natives'. There are opportunities presented by Web 2.0 technologies: better communication, including sharing information securely, and higher degrees of interaction (Moein et al., 2010). All this is only possible, however, with high levels of internet connectivity (Chao & Lo, 2011), but as yet, this is not widely available to Saudi students (Oyied, 2009). Alblehai (2016) additionally notes that to engage technology properly, in this instance, Wikis, the correct infrastructure must first be established, and students and teachers must be skilled in the ability to use such tools and services. The educational institutions in Saudi Arabia are making considerable efforts to make things better in this regard, in line with Ministry's aims that specify the importance of technology to meet the needs of the country, particularly in terms of the educational sphere (Ministry of Education, 2014).

Notwithstanding the slowness in adopting Web 2.0 technologies, higher education institutions are using Wiki sites with greater frequency, due to their capacity for enabling multiple aspects of education to become available. Wiki sites are easily able to provide educational materials, to allow students to set aside and save project work, to save and file away data and learning, facilitate collaborative working amongst students and they can stay abreast of alterations that are made in files and projects (Lin & Yang, 2011; Hadjerrouit, 2014; Biasutti, 2017). Wikis can thus be considered one of the most useful elements of Web 2.0 technology, with a majority of scholars viewing them as a great tool for higher education (Stafford et al., 2014).

There are four features of culture that Alhareth (2014) highlighted as impacting on female students in their quest to gain benefits from online educational resources. They are: 1) the prevailing culture of society, with its conservative, tribal background; 2) their family's consent to let female family members make use of technology; 3) the attitudes of families to the prevalence of the internet in day-to-day living; and 4) the support of the government for females to comprehensively access online education. In addition, Samovar et al. (2009) denotes that the connection linking learning in general (including online learning) and culture is robust, which is illustrated in the means by which students choose to acquire knowledge. The above observations indicate that further exploration may be needed on the affect that religious beliefs and social customs have on attitudes amongst women to learning through technology (Alhareth, 2014).

Furthermore, there is reluctance amongst both men and women to engage with technology because their understanding of it is low and they have a fear that it might promote immoral acts. There is also an opinion that people's traditions and values could be altered by technology, particularly with regard to females education. Technology is sometimes discouraged or forbidden because of fears that it will result in fraternising with the opposite sex, which is at odds with traditional culture and religious practices in Saudi Arabia (Alkahtani, 2012). Without doubt, this cultural intervention has restricted online education being made available for girls (Smith & Abouammoh, 2013; Alhareth, 2014).

Also, if a student has only learnt in a classroom, where the environment is rather passive, this may impinge on the student's attitude to using Wiki as a learning vehicle (Khan, 2011). In a traditional educational environment, where rote learning and committing tasks to memory is standard, the open setting in which any participation must occur could result in students' confidence and self-belief being impaired. This could lower levels of motivation and even result in the students becoming bored (Albadri, 2012).

From the literature reviewed to date, the researcher has decided that there is a requirement to make a detailed investigation into student attitudes, having reflected on the research



context, being the limitations and characteristics of prevailing culture, particularly at Princess Nourah University (PNU). This university is the world's biggest women-only university, with a footprint in excess of eight million square metres. The Bachelor programmes comprise over 50,000 students, while there are 400 on Master's programmes and 350 females studying at doctorate level (Alfayez, 2014). The vision of PNU is that it "aims to achieve national and international leadership through college education and scientific research" and "to contribute to society and environmental development based on Islamic values and social and culture awareness for sustainable development" (Princess Nourah Bint Abdulrahman University Information Booklet, 2013: 2).

This university was used as the location from which to carry out the study as it is a groundbreaking, women-only institution, and a flagship for the Ministry of Higher Education, as female equality in the educational sphere is a major item of King Abdullah's drive to raise females' education levels and increase their standing amongst their communities (Smith & Abouammoh, 2013; Alhareth, 2014). Such strategies are being introduced because women's education has previously been limited because of gender segregation, with certain subjects and careers limited to men (Alsuwaida, 2016). Islam, crucially, declares that both men and women should be afforded access to education. This issue has been contested in Saudi Arabia since 1970, when a policy was brought in that championed equal educational rights.

## **Methodology**

A single case study has been used in this research to address the research questions and to choose information tools with which to acquire detailed information concerning influences from culture and attitudes.

### ***Participants***

For the 2016 second semester, the number of female undergraduates who began the course in education technology at Princess Noura University was 83. Wiki technology was used in their module to teach all of them. Every student replied to the questionnaire at the end of the six-week teaching segment, while 20 volunteered to participate in a post-Wiki interview.

**Table 1:** Participant Details.

Profile	Particulars	No.
Sex	Female	83
Age	Between 20-21 years	83
Year and Department	Second year at education technology department	

### *Measurement Instruments*

The research utilised two instruments, one of which was an interview that comprised of open questions about how the students used technology. The phrasing of the questions was aimed at garnering responses that might disclose what cultural factors impacted on technology use, but these elements were not too overt. The students were just signposted to these questions via a prompt sheet. Closed questions and a four-point Likert scale were also employed on a questionnaire to explore student's attitudes. The questionnaire's principal objective was to survey attitudes amongst students about utilising Wiki technology as a learning instrument. Six elements were addressed in the questionnaire, with the Likert scale measuring 'not confident' as 1 and 'very confident' as 4. Restricting the responses to four enabled the researcher to guide the participants into arriving at an informed choice. The questionnaire's trustworthiness was assessed through the use of Cronbach's Alpha – to check the attitude scale's inherent consistency. The resultant score was 0.92, a result that suggested a good level of reliability.

### *Procedures*

Students on the Education Technology module signed up for a six-week programme, which was to be delivered with Wiki technology as an element of Web 2.0 technology, being two online lectures delivered every week. For the purposes of this study, the researcher built a Wiki website, on which the students had to log on to carry out tasks involved in the module. At the end of the six-week programme, data was collected by the researcher via a questionnaire investigating attitudes towards learning with Wiki technology. In addition, there were separate interviews with 20 of the 83 students. Prompt questions were used to help explore attitudes to culture and the perceptions of Wiki's potential as a learning instrument among students and whether they thought of it as positive or negative. The interview also sought to ascertain what reasons, such as cultural pressure, might explain the students' attitudes.

## Findings and Discussion

Attention must be directed to elements that might colour the students' impressions of Wiki, whether positively or negatively. The study context, for example, was Saudi Arabia, a country whose culture permeates all areas of life, including education.

The opening research question was addressed by the researcher by analysing the interview data thematically. Of the 20 students interviewed, five disclosed that they may have incurred negative feelings about technology from their families' ideals. The debate on this point centred around the fact that certain families forbade the females in the family to make use of technology as a learning instrument. The conviction among these families was that practices and customs could be adversely affected by technology, particularly as regards to the education of girls. Such discoveries echoed the findings of Alkahtani (2012) and Alhareth, (2014). The fact that only a quarter of the students disclosed that their families were opposed to them learning through technology could be because the participating students' families knew that technology could further girls' education. This notion is further supported by the fact that the cohort involved in this research had been allowed and encouraged to go to university and take part in a course on education technology.

A mixed-method approach, consisting of both interviews and questionnaires, was used by the researcher to address the second question, which was set against a background of culture in the environment of Saudi Arabia. The questionnaire results listed in Table 2 indicate that a majority of the students' attitudes were positive about Wiki technology.

**Table 2:** The frequency of answers within each attitude

No.	Items	Frequency			
		1	2	3	4
1	I believe that Wiki technology is easy to use.	0	2	19	62
2	I believe that Wiki technology has a significant value in the educational process.	2	6	23	52
3	I believe that Wiki technology has helped me to develop my performance in my studies for the better.	1	4	14	64
4	I now feel positive about using Wiki technology during my studies.	1	8	11	63
5	I believe that Wiki technology has helped me to better understand the course.	0	4	15	64
6	I believe that Wiki technology is interesting to use.	2	5	14	62

Over three-quarters of the responses to the questionnaire, 64 out of 83, indicated a strong degree of positivity about Wiki being used as a learning instrument. The principal areas

that the questionnaire concerned itself with, in the quest to find out attitudes from students to using Wiki as an educational tool were: 1) how easy it was to use, as regards the technology itself; 2) whether it provided real advantages to students' education; 3) if it stimulated the learning experience and was an enjoyable process. Certain respondents provided very detailed responses, delivering comprehensive insight into their feelings and opinions.

The responses indicate that the students' self-confidence had risen through their experience of learning through Wiki, compared to their feelings about being educated in an old-fashioned classroom. The students felt that they could state their opinions coherently, having carefully considered them before expressing them, and without having to think about any of their peers, who might pass instant judgement in a classroom scenario.

Teachers have total authority in Saudi Arabian classrooms and are considered as the source of knowledge (Mansour & Alhodithy, 2007; Grami, 2012); Alrabai, 2016). Focusing on the teacher rather than the students can be a hindrance to students feeling able to express themselves (Alrabai, 2016), which could be one of the causes of students' anxiety in classroom environments. The responses from the students disclosed that they experienced a positive attitude from the use of Wiki, because it was new and exciting, and so different from the traditional type of classroom instruction that they had been used to. Some of the students also reported that learning through Wiki took away the boredom that they sometimes felt as a result of the didactic approach of the teacher-dominated methods that had been the standard practice in Saudi Arabia for so long. Allamnakhrah (2013), in the same way, characterised Saudi Arabian methods as old-fashioned, in that the teachers were perceived to be the conveyers of knowledge rather than figures who enabled students to learn. This study has reported that departing from this style and involving students through Wiki has enabled them to become excited by the learning process and involved in it.

To sum up, the female Saudi students' positivity towards Wiki alerts us to and informs us of the challenges faced by women in Saudi Arabia in accessing technology. The study's findings confirm again that Web 2.0 technology, Wiki in this instance, can be a successful way of teaching that observes rules of segregation but changes the style of learning, departing from the passive approach, in which students can become disinterested quickly because of the lack of opportunity to engage with the subject, with their peers, and with teaching staff (Zhang et al., 2015). In the course of conducting the research and attempting to answer the research question, the rather unexpected finding was that students declared that using Wiki raised their level of self-confidence. This finding may generate further debate and perhaps more research into the use of Wikis as a means with which to combat the shyness that female students in Saudi Arabia seem to experience as a result of its prevailing culture.



### ***Limitations***

This study selected a single case study for its research strategy. Although this method is not normally generalisable as regards to gathered data and results (Denzin & Lincoln, 2011), it may still be seen by readers as transferable to other, similar, contexts of research and culture. This study sample was a compact student cohort from a single university department, involving female undergraduates from Saudi Arabia's Princess Nourah University for a six-week period.

### **Recommendations**

We have observed in the limitations section that, despite the fact that generalisations are not appropriate, with the consent of the reader and depending on the transferability principle, this study could help to shape and stimulate more thinking on the subject of pedagogy in the environment of Saudi Arabia.

Additional research could be conducted into the specific connection between individual cultural aspects and female Saudi students' statements about their attitudes and perceptions regarding technology use in education. This research could be augmented by a variety of viewpoints of parents and teachers on this subject, which could assist in helping to interpret the findings from the students' statements. The research process may enable an intriguing comparison to be made about students living in different cultural contexts. In order to obtain more detailed specific responses from students regarding their specific views on their culture and how it impacts on their attitude to technology use, an experimental study could be created and conducted.

### **Conclusion**

This paper's principal research objectives was to investigate student attitudes of the use of Wiki technology to facilitate learning, in addition to putting female Saudi students' viewpoints about technology into a cultural context. The study findings have revealed that students embraced the use of Wiki positively, because they found it easy to use, and also that the anonymity of the process enhanced their self-confidence. Their statements listed many positive aspects of this style of learning. During the six-week experimental period, the female Saudi students experienced a different educational world as most of them declared it to be of benefit to them, and the study indicated that the student learning experience may be ready for change. This change may be to mix the time-honoured cultural values and customs with modern learning methods. A gap has been filled by this research, in the context of the learning experience for Saudi females, and new literature has been created which backs prior research that claimed that females' culturally-conditioned



shyness could be counteracted by technology. This study has shown that technology could assist female Saudi students to learn in an informal environment in which they can voice opinions that they may be reluctant to express in a formal classroom. Additional research into specific ideas of how culture impacts views of technology in Saudi Arabia is very much needed. This study however has enabled a bridge to be made in arriving at an improved understanding of the attitudes to technology of female Saudi students, so that advances like Wiki technology can be promoted by the government to help female students to learn through modern education methods, while still upholding the traditional values of the Saudi culture.



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