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

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### **Abstract**

Technology has become a major focal point in the modern learning environment. Web 2.0 technologies are widely employed in university education and have the potential to improve the quality of education for students who have grown up socialising in the digital world. Despite the benefits that technology can bring to pedagogy, there has always been a limited use of Web 2.0 technologies for educational purposes among students at Saudi universities, especially among the female students at Princess Nourah University (Alebaikan , 2010). Saudi Arabia is built on a conservative, tribal society, and this may affect a family's willingness to allow female students' access to technology (Alhareth, 2014). The purpose of this research paper was to explore student attitudes towards using Wiki technology as a learning environment, as well as to culturally contextualise the perceptions of Saudi female students towards using Wiki technology to learn. To achieve this, the research was formed using a six-week case study and a mixed-method approach involving pre- and post-questionnaires, as well as post interviews. Post triangulation, the results showed overtly that five students out of the 20 that were interviewed felt their family's willingness to allow them to study using technology had impacted on their own attitude towards using technology. The findings also showed that 64 students from a total of 83 had a positive attitude towards using Wiki after having experienced it, which was particularly enlightening in terms of the students who reported feeling *shy* in a traditional classroom, prior to their online experience. Wiki was perceived by seven out of 20 students to hinder these levels of shyness, especially through the anonymity that it provides.

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

### **Introduction**

Technology has become an integral part of society and fosters our social behaviour, in some cultures more than others. In Saudi Arabia, and across many Middle Eastern countries sharing the same culture, Web 2.0 technologies are not widely employed in higher education, despite the benefits that students may reap from this student-centred approach to learning. Favouring the more didactic, traditional rote memorisation technique in a typical four-walled classroom is widely reported across the world to hinder a student's willingness to interact with peers and the teacher, particularly in situations where freedom of speech and shyness are issues among students. The focal group of this research were Saudi females, a cohort affected by cultural pressures that foster introversion among students. The fact that students who, due to their age bracket would be termed *digital natives* by modern standards, are used to socialising online but have never been given the opportunity to learn using Web 2.0 technologies requires investigation. The cultural effects on student attitudes towards learning using technology, in this case Wiki, are best

gleaned using personal interviews that allow the students a voice that is rarely heard in a classroom scenario. In this manner, cultural variables that may affect attitude towards technology may be identified, both overtly from students' statements during the interviews or through post-interview analysis. In this way, the research will create a stepping stone towards a fuller understanding of the reasons behind both positive and negative attitudes towards the use of technology for learning in a Saudi context, specifically from the perspectives of female academics, a domain that has experienced lower levels of research. Hence, the main objectives in this research paper were to explore student attitudes towards using Wiki technology as a learning environment, as well as to culturally contextualise the perceptions of Saudi female students towards technology.

### **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**

It is necessary first to define the keywords related to this paper's objectives: *culture* and *attitude*. Farzaneh and Nejadansari (2014) define an attitude as a positive or negative evaluation of learning, and student attitudes may offer new insights into the way in which these attitudes could act as obstacles or drivers for learning. Twu (2010) confirms the above by stating that a student's attitude towards using Wiki may involve feelings, cultural beliefs and values.

According to Hofstede et al. (2010), culture can be defined as a set of beliefs, attitudes and norms that are shared by one group of people, and which are manifested in their behaviour. The foundation of Saudi culture is the Islamic religion. Indeed, Islam and the Muslim religious identity influence all areas of life in Saudi Arabia. The values and rules of Islam direct all the aspects of Muslims' lives (Oyied, 2009), including the education system. In Saudi Arabia, there are four key aspects of education: a focus on the Islamic nature of the Saudi population; gender separation; state financial support; and centralisation of the education system (Smith & Abouammoh, 2013).

Previous studies have alluded to several limitations of the education system in Saudi Arabia (Grami, 2012). The barriers include teaching strategies (Khan, 2011), traditional, lacklustre approaches delivered through a teacher-centred approach (Grami, 2012), and perceiving the teacher as the only source of knowledge (Khan, 2011).

The use of technology in higher education in Saudi Arabia is also limited (Balubaid, 2013), despite the fact that the new generation have grown up as "digital natives" in terms of their social lives. In education, Web 2.0 technologies offer a way to facilitate interaction, improve communication and secure information sharing

(Moein et al., 2010). This can, however, only happen if internet connectivity is at an optimum level (Chao & Lo, 2011), which is something that Saudi Arabia unfortunately does not offer consistently enough to students (Oyied, 2009). Alblehai (2016) also point out that the successful use of technology, specifically Wikis, is reliant on having the necessary infrastructure in place and on students, as well as teachers, having full knowledge of how best to utilise these tools. This is an area which Saudi education institutions are working hard to improve based on Ministry Aims that outline the need for technological advances in line with the nation's needs, specifically in the academic arena (Ministry of education, 2014).

Despite the above, Wiki sites specifically are becoming increasingly employed as an online learning tool in higher education, thanks to their ability to facilitate many educational processes. For example, they can be used for presenting learning material to students, storing work carried out on a project, storing and logging information and learning, collaborating with peers, and keeping track of changes made to documents and projects (Lin & Yang, 2011; Hadjerrouit, 2014; Biasutti, 2017). It can, therefore, be assumed that Wiki's, as part of Web 2.0 technology, are deemed by most scholars to be particularly useful in higher education (Stafford, et al., 2014).

Alhareth (2014) astutely points out that there are four cultural factors that affect female students in terms of reaping the benefits of online technology education, including the conservative, tribal society culture and the family's willingness to allow its female members to use technology to learn, as well as how families view the culture of internet use in daily life and, finally, the level of encouragement given by the government to females to take up online learning. Further to this point, Samovar et al. (2009) point out that there is a strong link between culture and general learning (which will also, by extension, include any online learning) and this is shown in the way students prefer to learn material. Based on the above points, it is highly likely that the impact of social and religious beliefs on women's attitudes towards education via technology will require investigation (Alhareth, 2014).

Additionally, many women, as well as men, are reluctant to use technology because they do not understand how to use it, and because they think that it will encourage immoral behaviour. Some also think that technology could affect the customs or values of people, especially regarding girls' learning. They do not, therefore, allow them to use technology in learning because of concern that it will lead to intermingling with the opposite sex, which causes a clash with the cultural and religious values in Saudi Arabia (Alkahtani, 2012). This cultural factor has no doubt hindered the implementation of online learning for girls (Smith & Abouammoh, 2013; Alhareth, 2014).

Furthermore, the culture of a student may affect their attitude towards using Wiki to learn, since their experience in a traditional classroom may have increased or decreased their confidence levels due to the passive nature of tasks (Khan, 2011). The lack of participation in the traditional learning scenario, i.e. rote memorisation and the extremely formal, open setting in front of many other students, may lead to a reduction in self-belief among students which, in turn, could reduce motivation to learn and potentially induce the feeling of boredom among students (Albadri, 2012).

Therefore, based on the literature reviewed thus far, the researcher recognised the need to explore student attitudes in depth after careful consideration of the context of the study, e.g. the cultural constraints and peculiarities, especially at Princess Nourah University (PNU). PNU is the largest university in the world designed specifically for women, spanning an area of eight million square metres. More than 50,000 students are enrolled on the Bachelor programmes, 400 in the Masters and 350

in the doctorate stage (Alfayez, 2014). PNU’s vision “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).

The study was conducted at this university because it is a pioneering, new university for female students only, and currently a focal institution of the Ministry of Higher Education, since equality for females in terms of education is high on the Ministry’s agenda thanks to King Abdullah’s aims to improve education for females to enhance their status in their communities (Smith & Abouammoh, 2013; Alhareth, 2014). These efforts are being made because gender segregation had once been used to restrict the education of women in specific, and traditionally male, career paths and subjects (Alsuwaida, 2016) and, crucially, in Islam, it is stated that education should be offered to both genders – a cause which has been fought in Saudi Arabia since the introduction of a policy, introduced in 1970, for equality in the right to an education.

**Methodology**

In this study, the aim was to use a single case study to answer the research questions, and to select information tools to obtain in-depth knowledge about possible cultural influencers and attitude.

**Participants**

There were 83 female undergraduate students enrolled on the Education Technology course at Princess Noura University in the second semester in 2016. All 83 participants were taught their module via Wiki technology as a part of Web 2.0 technologies. All responded to the questionnaire after the six-week teaching period using Wiki and 20 out of of 83 elected to complete a post-Wiki interview.

Table 1 Shows details of all participants who took part in the research.’

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

**Measurement Instruments**

Two instruments were applied during this research, including an interview with open questions regarding the students use of technology. The questions were designed to elicit responses that may shed light on cultural influences on technology use, yet the information on culture was not overtly forced and simply guided using a prompt sheet. Student attitudes were also investigated via a questionnaire with closed questions and a four-point Likert scale. This questionnaire was created with the sole purpose of investigating student attitudes towards Wiki technology as a learning tool. The questionnaire covered six items under the scale of attitude and students placed themselves on the Likert scale from 1 (not confident) to 4 (very confident). The choice of four responses was selected by the researcher to force the respondents to make an informed decision. The reliability of the questionnaire in this study was

evaluated using Cronbach’s alpha to test the internal consistency of the attitude scale. The score was 0.92, which indicates good reliability.

**Procedures**

The students were enrolled on the Education Technology module, designed to be conducted through Wiki technology as a part of Web 2.0 technology over a period of six weeks, and each week included two online lectures. The researcher created a Wiki-website for this study and students were expected to log onto the website to complete module tasks. After six weeks of learning using Wiki, the researcher collected data from the 83 students using a questionnaire to explore attitudes toward Wiki technology as a learning environment. Also, the researcher interviewed 20 out of 83 students who voluntarily offered to take part. The interview questions enabled exploration of cultural aspects using prompt questions that sought to investigate students’ positive and negative attitudes towards Wiki as a learning tool, as well as to investigate the reasons behind attitudes such as cultural influences.

**Findings and Discussion**

It is necessary to draw attention to some points that could affect students’ feelings towards Wiki, albeit positively or negatively. To begin with, the context in this study here was Saudi, and Saudi culture affects all aspects of life as well as the education system and its practices.

The researcher answered the first research question through thematic analysis of interview data, and five students out of 20 reported that culture may have negatively impacted their attitudes towards technology. This was largely discussed in light of the fact that some families follow a strict cultural conduct in which female members are not allowed to use technology to learn. These families may believe that technology could affect the customs or values of people, especially regarding girls’ learning. This finding was in line with studies by Alkahtani (2012) and Alhareth, (2014). The lower number of students eluding to this fact could be understood as a sign that the families of the students that took part were already aware of the benefits that technology can bring to girls’ education. This is most likely the case, since the cohort selected for this study were indeed allowed to attend a university and study an Education Technology course.

To answer the second question, the researcher used a mixed-method approach (questionnaires and interviews) to better understand the attitudes of the chosen group of female students towards technology, with the backdrop of Saudi culture. Based on the results from the questionnaires, most students had a positive attitude towards using Wiki technology, as shown in Table 2.

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

As shown in Table 2, three-quarters of the learners' responses (64 out of 83) in the questionnaire showed a high level of positivity towards using Wiki as a learning environment. The questionnaire focused on discovering student attitudes towards using Wiki in learning, the key areas being: (1) ease of use, i.e. whether Wiki was easy to use in terms of technology, (2) benefits, i.e. whether Wiki was useful or not, in relation to their learning and (3) interest, i.e. whether Wiki provoked enjoyment in learning. Regarding these points, some learners indicated their attitudes in detail during the post-course interviews, which provided further insight in to this matter, based on their thoughts and feelings.

Based on the interview results, the students reported to have increased self-confidence after having been exposed to Wiki learning, compared to how they felt in a traditional classroom learning scenario. Students could express opinions clearly, having thought about them before posting them, and without a room of real-time observers who may pass more overt judgement.

In Saudi Arabia, teachers have control over all of the activities in the classroom, and are seen as a source of knowledge (Mansour & Alhodithy, 2007; Grami, 2012); Alrabai, 2016). This type of teacher-centred learning, rather than being focused on the students, can be a barrier to students developing fluency in speaking (Alrabai, 2016) and this could be a reason why Saudi learners feel anxious when they interact in the classroom. Some learners explained their positive attitude towards using Wiki in terms of the excitement and thrill of using something new, which represented a departure from the normal learning routine with which students were familiar. It was also noticeable in this study that several students mentioned that Wiki learning removed boredom, which suggests that students compared Wiki with the teacher-centred, didactic way of teaching in Saudi Arabia, which they found boring. Allamnakhrah (2013) similarly described the teaching methods in Saudi Arabia as traditional, with lecturers perceived as transmitters of knowledge, rather than facilitators. In this study, it seemed that breaking this pattern and enabling students to be actively engaged, via Wiki, generated excitement.

In summary, the positive reception to Wiki from the Saudi female students in this study reminds us of the issues faced by women regarding access to technology in Saudi Arabia. As mentioned above, the findings offer renewed clarification that using a Web 2.0 platform for learning, specifically Wiki, could be an effective teaching method that would comply with gender segregation rules and reduce issues surrounding traditional passive learning, where students become bored rather quickly through the lack of interaction, with content, teachers and peers. The path to discovering an answer to the question unexpectedly showed that, overall, students perceived that their self-confidence increased by using Wiki. This provides food for thought regarding the use of Wikis as a combatant of culturally-induced shyness among female students in the Saudi context.

### Limitations

The research strategy chosen for this study was a single case study which, although usually not generalisable in terms of collated data and results (Denzin & Lincoln, 2011), could instead be viewed as transferable, at the reader's discretion, to similar cultural and study contexts. The sample for this study was just a small cohort

of students taken from just one department in one university, incorporating exclusively female undergraduate students from Princess Nourah University in Saudi Arabia over a period of six weeks.

### Recommendations

Although generalisations cannot be made, as discussed under limitations, this research could, subject to the principle of transferability and at the reader's discretion, provide guidance and encourage future thinking on pedagogy in the context of Saudi Arabia.

Further research could be performed into the direct relationship between specific aspects of culture and attitudinal statements about the use of technology in the education of female Saudi students, during which different perceptions could be drawn in from parents and teachers as well. In this process, attitudes of students living in a different culture may form an interesting comparison. An experimental study could be applied to acquire more specific statements from students regarding overt perceptions of their culture and its influence on their attitude towards to use of technology.

### Conclusion

The main objectives in this research paper were to explore student attitudes towards using Wiki technology as a learning environment, as well as to culturally contextualise the perceptions of Saudi female students towards technology. This study has shown that students perceive their experience of Wiki to be extremely positive due to ease of use, the excitement it offers and the anonymity that builds self-confidence, among many other positive attributes mentioned in student interviews specifically. A short six-week window opened the eyes of this group of Saudi female academics to a new world of learning, which the majority perceived to be beneficial to them, highlighting that students in a similar context may also be ready for a new approach to education, one which may offer a compromise between traditional cultural values and the need to learn in a modern fashion. This research has filled a gap, specifically in the context of Saudi females, and has offered additional literature that supports statements in previous research that technology could aid females in combatting culturally-induced shyness, allowing them to learn in a more comfortable, less formal manner that provides an opportunity to voice their opinions more freely than in a traditional classroom. Further research in this area into overt perceptions of cultural influence on attitudes towards technology in a specific context of Saudi Arabia is sorely needed, yet this research provides a stepping stone to reaching a better understanding of Saudi female student attitudes towards technology, in order that, following further research, technology, such as Wiki, may form an acceptable middle ground for female students between the traditional cultural values that should be upheld and modern learning advancements, encouraged by the government.

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