

# Understanding Saudi Arabian students' engagement in E-learning 2.0 in Australian Higher Education

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## Abstract

This paper focuses on understanding Saudi Arabian students' engagement in e-learning 2.0 in Australian higher education. Eight Saudi students enrolled in the Australian Higher Education were interviewed to discuss their experiences and attitudes towards e-learning 2.0 using Semi-structured interviews. A qualitative approach was adopted to analyse the gathered data. The approach was based largely upon Charmaz's constructivist grounded theory.

Key findings indicated that Saudi Arabian students were able to utilise the e-learning 2.0 settings in their respective universities as tools in which they interacted with other people while preparing themselves to become more interactive in their classes. At the same time, e-learning 2.0 served as a means for these students to steadily get over the socio-cultural barriers that might hinder them from making the most out of their education in Australia. However, it was also found that the language barrier that persisted even in the e-learning 2.0 environment made it more challenging for students to break through other barriers. Furthermore, it was found that the gender segregation culture that Saudi Arabian students have been used to still affected them in Australia, even in taking advantage of the e-learning 2.0 opportunities. This paper presents a discussion of four axial codes /categories that were identified that shape the Saudi students' attitudes, experiences and their engagement with e-learning 2.0. Specific attention is given to the 'Engaging in learning through technology' axis.

**Keywords:** E-learning 2.0, Web 2.0, Educational Technology, Engaging in e-learning 2.0, Australian Higher Education, Saudi Arabian Students, Qualitative Research, Grounded Theory.

## 1 Introduction

This paper is part of a large project investigating the experiences and attitudes of Saudi Arabian higher education students in Australia towards e-learning 2.0, as well as the opportunities and challenges emerging from these experiences and attitudes. It examines the role of culture in shaping attitudes and experiences of these students. One of the aspects of difference that foreign students face is the change in learning environment. In this digital age, western universities have led and continue to lead developments in e-learning, the utilisation of different online resources in order to better facilitate learning. One of the latest developments in this area is e-learning 2.0, which is a shift in the focus of using online learning resources from delivering knowledge to students, to enabling students to build knowledge on their own (Downes, 2007). This shift is far different from what students with Middle Eastern or Asian backgrounds may be used to, as educational institutions in the Middle Eastern region, for instance, tend to be teacher-centric, and non-participatory (Mahrous and Ahmed, 2010, Tubaishat et al., 2006). As such, there are many issues which foreign students in western or westernised universities have to deal with in terms of this new learning environment. It is in the investigation of some of these issues that the topic of this dissertation is situated.

There is strong impetus for research to be conducted on how foreign students experience e-learning 2.0 in western or westernised universities, and how these experiences shape or change students' attitudes about e-learning 2.0. It is likewise important to determine how these experiences and attitudes affect the challenges and opportunities that foreign students face in e-learning 2.0 environments, and how different cultural factors influence their perception and use of e-learning 2.0 resources.

Since 2005, the Ministry of Higher Education in Saudi Arabia launched a programme that sought to help raise higher education achievement among the Saudi Arabian citizenry. This is the King Abdullah Scholarship Programme (KASP) which to date has provided over 150,000 full scholarships for Saudi Arabian students to study in prestigious higher education institutions around

the world (Ministry of Higher Education in Saudi Arabia, 2012). Approximately 11% of students who are approved for the scholarship go to study in Australia (Ashrqiya Chamber, 2011).

Saudi Arabian foreign students were selected for the focus of this study for two reasons. Firstly, Saudi Arabian cultural norms are very different from western culture which predominates in Australia, in many aspects, such as in matters of propriety, liberty and gender roles. Secondly, the educational systems in the two countries are very different, specifically, in higher education. For example, in Saudi Arabia, the higher education system is based on gender segregation (AlMunajjed, 1997), while in Australia, all university education is co-educational. Further, the learning environment in Saudi Arabia is teacher-centric and non-participatory (Mirza and Al-Abdulkareem, 2011). In contrast, the Australian learning environment is participatory and democratic, where both students and instructors have rights (Bradley et al., 2008). The concern is finding out how this contrast affects students' experiences and attitudes.

Understanding Saudi Arabian students' engagement in e-learning 2.0 resources in the Australian educational setting can help improve both learning and teaching practice by providing such students with a deeper understanding about the opportunities that they can draw from e-learning 2.0 resources. In addition, it can help educators in Australia gain greater knowledge of the learning needs of their foreign students and how to utilise e-learning 2.0 resources in order to maximise the benefits for these students and help them overcome the challenges that emerge. This benefit is in line with the new international paradigm of inclusive education proposed in Mitchell (2005, p. 32), where it is recognised that people from a foreign culture are introduced into a new educational system, educators within that system must be capable of modifying the system to fit such foreign students' diverse needs. Thus, this work can serve as a stepping stone for other studies relating to how students from foreign backgrounds experience e-learning 2.0 in the Australian setting.

## 2 Background

### 2.1 The Concept of E-learning 2.0

E-learning 2.0 is dependent on the tools of Web 2.0 that have "blurred the line between producers and consumers of content", and made possible access to other people rather than merely access to information (Brown and Adler, 2008, p. 18). Brown and Adler (2008, p. 19) believe that the most important contribution that Web 2.0 is making to e-learning is the creation of a participatory medium that is able to support social learning.

Social learning is not simply about "what we learn, but how we learn" – and Brown and Adler (2008, p. 20) point to the way apprentices are gradually inducted into becoming "full participants in their field." In attempting to describe the most important features of e-learning 2.0, Ehlers (2009) suggested that "self-directed" learning is a key feature of e-learning 2.0. Another feature of e-learning 2.0 described by Ehlers (2009) is that it enables

learners to use informal, networked, and electronically supported learning.

### 2.2 Main Web 2.0 Tools for E-learning 2.0

There are a number of Web 2.0 tools that are used in e-learning 2.0 settings. Some examples of these are blogs and microblogs, which facilitate the discussion of course-related topics (Borau et al., 2009): wikis which enable individual members of a class to contribute their own inputs in developing a class-wide knowledge base on course content (Hoewe et al., 2012, Young and Pérez, 2012): and podcasts, and content sharing tools which enable students to share and absorb a wide range of multimedia information relevant to their course content (Krauskopf et al., 2012).

### 2.3 Affordances of E-learning 2.0

According to Faiola and Matei (2010), affordances of an educational construct are qualities that allow students that perform certain actions. E-learning 2.0, through the use of Web 2.0 resources, has a variety of affordances for students. Firstly, such an environment allows students to develop their own learning content, enabling them to have a deeper familiarity with the subject matter. The student comes to treat the course as much more than just a subject that he or she has to take. Secondly, e-learning 2.0 allows the student take greater control of the learning process, and reduces the imbalances in the power relationships between students and teachers. Thirdly, e-learning 2.0 broadens the scope of student interactivity, and empowers the development of a learning community.

### 2.4 E-learning 2.0 in Saudi Arabia and Australia

The development of e-learning in Saudi Arabia has been relatively slow compared to western countries (Al-Shehri, 2010). However, considerable progress has been made in the last five years, during which a "national centre for e-learning was established and e-units or departments have been set-up in almost every university". Still, these developments in e-learning seem to be focused on *E-learning 1.0* rather than e-learning 2.0. E-learning 1.0 platforms have been developed to enable universities to offer online courses and empower faculties to produce online learning content. However, studies on the possible utility of Web 2.0 tools in Saudi Arabian higher education settings could not be found. As reported by Harrison (2008), the culture of teaching and learning in Saudi Arabian schools still tended to be teacher-centred, which is in line with the e-learning 1.0 platform but not e-learning 2.0 environments.

The differences in the e-learning 2.0 environments that are present in the two countries, Saudi Arabia and Australia are evident. Australian universities have been developing their e-learning systems since the late 90's (Marshall, 2011), and have come to accept and integrate changes brought about by the development of e-learning 2.0 in those systems (Kirkwood, 2010). On the other hand, Saudi Arabian higher education institutions have been considerably slower in terms of establishing their own e-learning infrastructures (Mirza and Al-Abdulkareem, 2011), and have not yet even begun

adapting to changes brought about by the development of e-learning 2.0. Based on this difference, it can be surmised that Saudi students are less accustomed to Web 2.0 technologies being applied to e-learning 2.0 than western students.

## 2.5 Opportunities and Challenges of E-learning 2.0

Based on the descriptions of e-learning 2.0 provided in the preceding sections, it is clear that Saudi Arabian students can potentially gain access to many opportunities through immersion in the e-learning 2.0 environment. They would be able to gain access to insights of different people across the world; people who are involved in the same fields of study. In so doing, such students would be able to gain greater, more comprehensive knowledge in their degree programmes. At the same time, they would be able to expand their social and professional networks, gaining access to possible collaborative endeavours or future employment opportunities. However, Saudi Arabian students also need to engage in the challenges of e-learning 2.0, which is basically that it is built on principles of openness and liberty that may be in direct contrast with their own cultural upbringing.

## 3 Methodology

### 3.1 Qualitative research design

The qualitative research design was selected for this study. According to Merriam (2009, p. 6), the qualitative research design is a "social" research design that mainly utilises an *interpretive* paradigm of truth-seeking. First, this means that the design is only applicable to studies that involve people. This is because data gathered from qualitative research are not completely objective, but are dependent on the subjective perspective of the respondent. Secondly, qualitative research accepts that different people experience the world in different ways. As such, it is in how people interpret their experiences that truth is found.

In terms of how research is conducted in a qualitative design, Merriam (2009) explained that research is carried out holistically, through a process of organising and identifying patterns from narrative descriptions of people who are of relevance to the phenomenon of interest.

### 3.2 Grounded Theory

Sociology researchers, Barney Glaser and Anselm Strauss originated their qualitative research design of Grounded Theory in 1967 (Glaser and Strauss, 1977). This is a research method, which is quite different to the usual analysis, because it does not start with a hypothesis, and a theoretical framework. Rather, after collecting data, and coding it, the codes are grouped in various formations, and systematically analysed, until relationships can be established and a theory developed.

There are three main types of grounded theory approaches: classic grounded theory by Glaser (1992, Glaser, 1998), the modern approach by Strauss and Corbin (1998, 1990) and recently, Charmaz (2006) has introduced a constructivist approach.

Of the three different grounded theory approaches, it was Charmaz's constructivist approach that was ultimately applied to the analysis of the data in this study. Glaser's is not strictly a qualitative approach, and encourages gathering data from various sources using various instruments in order to come up with a universal whole of the environment of interest (Glaser, 1998). The Strauss and Corbin approach is similar to the Charmaz approach. What separated the two approaches from one another is their perspective on how the theory should emerge from the data. Strauss and Corbin maintain that in the conduct of the different levels of coding, the theory should emerge on its own, with little help on the part of the researcher (Strauss and Corbin, 1998). Charmaz (2006) criticizes this view several times (Chapter 1), saying that the outlook is positivistic, assuming that there is an underlying objective reality which the researcher merely has to uncover. Charmaz's approach is more in touch with post-modernist thinking, which makes the notion of the researcher's "objectivity" problematic. Charmaz is a constructivist, which means that she believes the researcher must acknowledge his/her own subjectively, and that the researcher plays a part in constructing the theory. In the end, this seemed the most appropriate approach.

### 3.3 Steps in Grounded Theory

According to Charmaz (2006) coding is essential to the development of a grounded theory. Charmaz (2006, p. 46) describes the coding stages as *"the pivotal link between collecting data and developing an emergent theory to explain these data. Through coding, you define what is happening in the data and begin to grapple with what it means."* Charmaz (2006) identify a four step coding process in data analysis. These are *initial coding, focused coding, axial coding* and *theoretical coding*.

- Initial coding phase "involves naming each word, line or segment of data" (Charmaz., 2006, p. 65). It can be done though word-by-word, line-by-line segment-by-segment coding which later form basic statements (lines of code) that conveyed singular ideas. This involves a close reading of the data and remaining open to all possible theoretical data (Charmaz., 2006). Charmaz (2006, p. 166) also stresses on following Glaser's (1978) guidelines of using "*gerunds*" (verbs ending in 'ing') when naming the codes.
- Focused coding. This is the second phase which is a "focused selective phase that uses the most significant or frequent initial codes to sort, synthesize, integrate and organize" the Data gathered (Charmaz., 2006, p. 65).
- Axial coding. Borgatti (2005, p. 6) defines axial coding as "the process of relating codes (categories and properties) to each other, via a combination of inductive and deductive thinking." Charmaz (2006, p. 107 & 116) discusses that the researcher can treat focused codes as "tentative" axial codes, and then decide which can become conceptual categories or axes. This can be seen as two steps:
  1. Focused codes = tentative axial codes/categories

2. Researcher picks out main focused codes, which become conceptual axial codes/categories

Thus, at the axial coding phase, the researcher attempts to fully describe the axial codes, by spelling out the properties and dimensions, and even relationships with other axial codes (Charmaz., 2006). Corbin & Strauss (1990, p. 12) indicated that each axis emerged "can be broken down into specific properties and their dimensions", and each property can also be broken down into sup-property.

- Theoretical coding is where "to specify possible relationships" between axial codes developed throughout the focused and axial coding stages (Charmaz., 2006, p. 84). Glaser (1978, p. 72) explained that "theoretical coding conceptualises how the substantive codes may relate to each other as hypothesis to be integrated into a theory."

Figure 1, shows the substantive strategy of Grounded theory analysis as identified in Charmaz (2006).

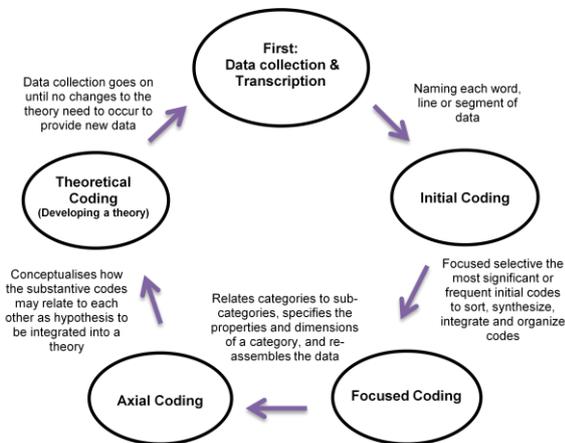


Figure 1: Grounded theory analysis strategy

#### 4 Implementation of Grounded Theory

The following section describes the research techniques used. It provides a detailed description of the coding stages which were based largely upon Charmaz’s constructivist grounded theory.

The data was gathered via semi-structured interviews. Although, this work is based on eight interviews, the full study will involve interviewing more participants until data saturation is reached. Having used the Grounded Theory (GT) method for analysing the data under a qualitative research paradigm, this study is expected to comprise 20-30 semi-structured interviews, as indicated in Creswell (1998, p. 64).

##### 4.1 Selection of Participants

The selection of participants was done by establishing inclusion criteria, which were that the participant should be Saudi Arabian, and should be studying in a university located in Australia. An email attached with the Explanatory Statement and the Consent Form in English that provide essential details about the study was sent to all Saudi students in a Google group and a Facebook

group. Both groups were created by the researcher in preparation for the study.

#### 4.2 Interviews

The data was gathered from the participants using semi-structured interviews. Around one hour duration interview were conducted to gather data from the respondents. As explained by Bryant and Charmaz (2007) and Charmaz (2006), semi-structured interviews work best because they provide the researcher with some control over the relevance of the expected answers to the research questions, while at the same time allowing respondents considerable flexibility in answering the questions. The same type of instrument was used in the other grounded theory studies reviewed (Omli and Wiese-Bjornstal, 2011, Sbaraini et al., 2011). In the conduct of this stage, the researcher scheduled an interview with each respondent; just as was done in Sbaraini, et al. (2011). Respondents were provided a wide array of choices for the medium of the interview, so that they could choose the medium that was most accessible and convenient for them.

Several major questions were prepared for the semi-structured interview and further sub-questions were developed to ask if it was deemed appropriate based on the participant’s initial response. However, the interviewer could also deviate from these questions and their order, if they wanted to follow a specific line of questioning. The interviews were digitally recorded and transcribed (verbatim).

#### 4.3 Response Overview

From the emails sent to participants, 21 replies were received from respondents. Out of this number, 8 interviews were scheduled with four males and four females. Their details are summarised in Table 1.

Intervi ewee	G	Age	Year Level	Medium	Length
I-1	M	18-25	2nd year Bachelor	Skype	60 mints
I-2	M	26-30	1st year PhD	Skype	90 mints
I-3	M	26-30	2nd year PhD	Face to face	60 mints
I-4	M	26-30	Master - Coursework	Face to face	60 mints
I-5	F	26-30	Master - Coursework	Skype	60 mints
I-6	F	26-30	Master- Coursework	Skype	60 mints
I-7	F	26-30	Master- Coursework	Skype	55 mints
I-8	F	18-25	Master- Coursework	Skype	60 mints

Table 1: Descriptive details of participants

As shown from Table 1, the respondents were diverse. This diversity is favourable in capturing the full range of experiences that Saudi Arabian higher education students have in Australia.

#### 4.4 Coding Process

The raw transcriptions were imported into NVivo 10, a qualitative analysis software program. The transcripts of each respondent were carefully read in depth, and broken down into basic statements (lines of code) that conveyed singular ideas. That is, each statement code contained only one significant idea from the respondent. From the eight interviews, over (400) basic statements were subsequently extracted forming (65) open/initial codes.

In the process of going through the stages of coding, open/initial codes were numbered (from 1- 65) in order to keep track of them, as they went through various modifications and consolidations. For example, when a repetition in the open/initial codes was found, a consolidation was done.

The second stage of the coding process is focused coding. Frequently occurring initial/open codes which show promise in answering the proposed research questions become the focused codes.

The third level of analysis is axial coding stage (also called categories by Charmaz). In this study, the term "axial coding" is used. An axis, as explained by Bryant & Charmaz (2007), is a statement or idea relevant to the study that can best describe what a set of codes are about.

Currently, the analysis of the data has resulted in four axial codes. These are:

- Overcoming the language barrier
- Influence of cultural practices
- Adapting to the Australian education system
- Engaging in learning through technology

#### 4.5 Properties and dimensions of the axial codes

Each of the four emerged axial codes was broken down into specific properties and their dimensions. The purpose of identifying the properties and dimensions of each axial code is to define, characterize, examine and re-examine the emerged/emerging axial codes.

Table 5 shows example of some of the properties and dimensions associated with the axial code 'Engaging in Learning through Technology'.

Properties	Sub- properties	Dimensions
Being productive through technology	Gathering information is faster and easier using technology	More efficient ..... less efficient
Improving interaction with opposite gender through use of e-learning 2.0	Has experienced better relations with opposite sex through use of e-learning 2.0	Better relations ..... worse relations

**Table 2: Properties and dimensions associated with 'Engaging in Learning through Technology' axis**

For example 'being productive through technology' is one of these properties in terms of respondents' experience of learning through technological interactivity in the Australian educational setting and e-learning 2.0. The student respondents have expressed that gathering information is faster and easier using technology, I5-F "*I think the technology of web 2.0 made it very easy for me to know more information and to find anything where I'd like to find it quickly.*" At the same time, the respondent's

experiences with E-learning 2.0 in Australia mainly consisted of being able to discuss topics that were not completely tackled in class more extensively through Web 2.0 tools.

These can show how using technology in general and Web 2.0 tools, in particular, seemed to serve the purpose of increasing and extending class involvement, understanding and productivity in course lessons of these foreign students beyond the time constraints of the typical classroom. However, comparing this opportunity of making use of technology provided in the Australian learning environment with another emerged axial code, such as, 'the language barrier' axis gives better understanding and "strengthens the emerging analysis." (Charmaz, 2012, p. 9). This discussion shows an example of how the researchers (through memos) define the axes, explicates the properties of each axial code, describes its consequences and shows how these axial codes relate to each (2006).

#### 4.6 Constructing an understanding (Theoretical Coding)

As explained by Charmaz and Bryant (2010), this is the stage where the researchers have some freedom to theorise as long as the theorisation incorporates grounded information drawn from the previous stages. In order to carry out theoretical coding, a deeper understanding of the notion of axial codes is required. This is to be done by focusing on the axial codes that arise from analysing the focused codes. As such, in the last stage of analysis, the validated conceptual axial codes are critically and reflectively analysed for their interconnections. From the synthesis of the axial codes, grounded theories are drawn to address each of the research questions posed (Charmaz, 2006, p.83). The results of this final stage that relate to the ultimate goals of this study will be presented at the end of this project.

### 5 Findings

This section provides a description of these four emergent axial codes/categories. Specific attention will be given to the 'Engaging in learning through technology' axis. This axial code is over-arching, involving the other three axes. The discussion provided is based on the respondents' basic statements that related to each axial code. The checking process of all axial codes is still ongoing and will be continued until the data is saturated.

Key Note: Respondents' statements in all following discussion are identified based on respondents' codes (I1 to I8) and gender (M or F) from the raw transcriptions.

#### 5.1 Overcoming the language barrier

This axial code describes the opinions and experiences of Saudi Arabian students regarding the need for English language skills while studying in Australia, particularly with regard to e-learning 2.0.

The language barrier was found to be a limiting agent that prevented students from making full use of e-learning 2.0. Since e-learning 2.0 typically required them to write in order to interact with other students, they felt conscious about their writing abilities and were generally hesitant about interacting because of fear that their

English would not be good enough. Specifically, I3-M said that he was very careful about what he wrote since *"all the people in that group will read it."* Similarly, I6-F *"I can't explain it (in) English in really good way"...., "when I write on the board I can't proof my English and no one will correct my grammar."*, this explained how difficulties in English made it hard for her to interact online.

## 5.2 Influence of Cultural Practices

The 'Influence of Cultural Practices' axis describes the respondents' opinions and experiences regarding cultural norms, ways of life, practices or beliefs related to students' choice and adapt to life in Australia. It also describes the differing reactions to mixing with the opposite sex, interaction with the sense of freedom. Finally, this category describes students' practices or beliefs regarding the lack of confidence and shyness in using e-learning 2.0.

The students were found to face various challenges in their stay in Australia. Some of the most prominent had to do with struggling with cultural differences. Specifically, many of the respondents expressed difficulty in adjusting to an environment where males and females were not segregated. As explained by I5-F, *"in Saudi Arabia we are like completely separate"...."I feel like I can't talk, I can't do anything because I wasn't raised to studying like in this environment."* Similar inputs were made by I6-F and I7-F. This difficulty was not limited to females, as explained by I4-M, *"But here we talk with them face to face and sometimes we have to shake hands"*, which was similarly expressed by I1-M and I2-M.

## 5.3 Adapting to the Australian Education System

The axial code 'Adapting to the Australian Education System' describes the respondents' opinions and experiences about educational models they have experienced, as well as their willingness or otherwise to accept a new educational model through comparing the Australian education system, environment, relationship, learning activities and student rights with KSA and Australia.

A set of challenges revolved around the respondents' perceived differences between the Australian and the Saudi Arabian educational model. As explained by I5-F, *"At the beginning it was very difficult for me to engage with Australian education system."* Specifically, differences pointed out were greater freedom over *"selection of subjects"* and the need to go beyond simply memorising lesson content. Similarly, I6-F discussed how in the Australian setting lectures push students to search to find information, *"In Saudi Arabia we just, ah, the teachers they just give us information and we just to memorize it, that's all."*

## 5.4 Engaging in Learning through technology

The 'Engaging in learning through technology' axis discusses the respondents' opinions and their experiences of being more productive through technological interactivity in the Australian educational setting and e-learning 2.0, including previous knowledge about it and

the benefits and challenges of interacting in the new e-learning 2.0 environment.

The data suggests that there were clear contrasts between students' experiences with E-learning 2.0 in Saudi Arabia and in Australia. While some of the respondents did make use of Web 2.0 tools prior to going to Australia, I5-F *"Facebook because I think this is the only thing I used when was in Saudi Arabia before I came to Australia"*, I4-M *"In Saudi Arabia, some of them are used only figure them out and also to communicate with friends, on an informal basis, but for education, No."*, none of them claimed to have used Web 2.0 tools in Saudi Arabia for academic reasons. It was clear that E-learning 2.0 was non-existent in the basic education level for the respondents (I1-M, I2-M, I3-M, I4-M, I5-F, I6-F, I7-F and I8-F).

Some of the students were found to be able to grasp the fundamental concept of E-learning, such as I3-M *"I think E-learning is using anything electronically,...using technology in education in learning whatever this technology"*, and I6-F, *"I think it's about using technology to teach students as much as you can as a teacher"*. However, other students seemed to have less accurate notions of the concept, such as I1-M *"I guess is when we use the university email"*, I8-F *"e-learning...you learn something from a distance"*, and I4-M *"E-learning in general is wherever and whenever."*

On the other hand, none of the respondents showed explicit understanding of what E-learning 2.0 is. Furthermore, there was some confusion found between respondents understanding of E-learning and E-learning 2.0 (I1-M, I2-M, I3-M and I5-F), while some students assuming that any use of technology to learning referred to E-learning 2.0 (I6-F and I8-F).

In contrast to this, other students actually did have the idea of what E-learning 2.0 was, but attributed these ideas to E-learning in general instead of E-learning 2.0 specifically. For example, when asked about their idea regarding E-learning, I2-M said *"I think it how to share information with other"*, but when asked about E-learning 2.0, he said *"I can't make any assumptions about what E-learning 2.0 means, because sometime I got confused"* (L:368). Similarly, I5-F explained E-learning as *"to use the internet or wireless technology or like new devices to gain new knowledge or share some information on something new"*, but about E-learning 2.0 said *"Actually, I'm not sure, could you explain it to me"* (L:164). These inputs show that students' formal understanding of E-learning 2.0 and implicitly, its role in their studies in Australia may be quite limited, which is consistent with literature on the underdeveloped nature of E-learning in Saudi Arabia (Al-Shehri, 2010)..

However, in spite of this supposed limitation, the respondents were able to extensively describe their increased use of Web 2.0 tools in Australia as well as their E-learning 2.0 experiences. Notably, respondents generally described considerably increased usage of Web 2.0 tools in Australia. These tools were used as means of communication with family and friends in Australia and Saudi Arabia, such as stated by I1-M *"Usually, I use them to keep in touch with friends, share information with"*

people I know. For example sharing pictures with friends I know, and keep touch family in Saudi”, and similarly by I3-M, I5F, I6-F and I7-F. They were also used to socialise by both males, I1-M “It’s good if you looking for new friends”, and females I5-F “I can discuss and meet friends and make a group discussion and all of this from home”, I6-F, I7-F and I8-F.

Different inputs referred to the usage of these tools as enjoyable, I6-F “I use YouTube for fun to see different cultures...to see people from around the world”, I3-M “I find it very fun and helpful when you can contact with them all the day and send messages and you know it is also much cheaper than other way like by phone”, but there were also inputs that evaluated these tools negatively, I7-F “I don’t like Facebook. I have one I created two years ago just to find out what it is about, but I think it’s useless for me.” Despite these varied perspectives about Web 2.0 tools, all of the students seemed to have been exposed considerably to these tools in their academic work in Australia.

These tools have been used as sources of information for assigned research, I8-F “I used YouTube because most of the lecturers they would give us all the time YouTube, they would give us links to open and download software use it at home so most of these tools I use them here.”, I4-M, I2-M, as well as for sharing and discussing lesson content and other course-related information, I1-M “for example last semester we had like an essay group and we have been using Facebook as three people and we used Facebook (group) to share information that we found for our essay group”, I3-M and I8-F. A summary of the Web 2.0 tools used by the respondents in Australia and those that they used in E-learning 2.0 activities is provided in Table 12.

Main Web 2.0	Tools Used for E-learning 2.0	Dominated	Dominantly mentioned
Social network	San Diego, Facebook	Facebook	I1, I2, I3, I4, I5, I7, I8
Microblogging	Tumblr, Twitter, Hictu	Twitter	I1, I2, I4, I5, I7, I8
Media sharing	YouTube, Broadcast	YouTube	I1, I2, I3, I4, I5, I6, I7, I8
Google Apps	Google Docs, Blogger, Google group, Google Search Engine, Google translator.	Google translator	I2, I4, I6
		Google Docs	I4, I6, I8
Online group Mailer	Google and Facebook groups, Uni email groups	Facebook groups	I1, I2, I3, I4, I5, I8
Blogs	Blogger.com	Blogger	I2, I3
Page editing	Wiki.com, Wikipedia	Wiki.com	I2, I4, I5, I6, I7, I8
Forums	Message Board	Message Board	I1, I6, I7, I8
LMSs/ VLEs	Blackboard, Moodle, Ed-Modo	Blackboard	I1, I6, I7, I8
Online call	Skype Meeting	Skype	I8

**Table 3: Different types of Web 2.0 used in Australia for learning**

Table 4 shows that there was clearly a wide range of Web 2.0 tools that the respondents were exposed to,

highlighting a stark difference between the Saudi Arabian and Australian educational settings that the respondents experienced.

### 5.5 Synthesis

The data suggests that e-learning 2.0 opportunities acted as tools that enabled the students to bypass the barriers of their Saudi Arabian perspective of education and enabled them to begin to accept the new environment that was being offered by the Australian higher education system. The e-learning 2.0 system enabled students to interact with one another online as a way of getting students to become used to interacting with other people at their university. I1-M stated that “we can discuss with student or with teacher if you want.” I7-F “you can discuss on twitter and that giving you some advice even in your study.” These statements, along with several others I2-M, I3-M, I4-M, I6-F, I8-F, describe how e-learning 2.0 applications that focused on enabling online interaction where students started to test out interacting with other students and began to see that such group interactivity is good and contributes positively to their studies. As explained by I7-F, the e-learning 2.0 activities that she was immersed in enabled her to become better at talking and treating people and discussing matters with the class; it also helped her in making friends.

Further, the data suggests that e-learning 2.0 was found to be especially useful in enabling the Saudi Arabian students to overcome their enculturation to gender segregation. I5-F states that when she began in Australia, she felt shy about dealing with people of the opposite gender, but this eventually passed due to interacting with people of the opposite gender online. This effect is best captured by I8-F “I think, e-learning 2.0 doesn’t care about male or female”...“For example in my group I could share anything, explain anything”...“in class I would feel a bit shy.” Similarly, I4-M also admitted that it was difficult at first to deal with females online, but that it eventually became normal for him.

Previous discussion of the data shows that Saudi Arabian students in Australia were introduced to a very different setting, where teachers were more accommodating, where gender segregation did not exist, and where the learners were at the centre of the learning environment. However, this shift in the environment was difficult for many students, and many of them regarded various differences in cultural and educational environment as challenging.

However, this role of e-learning 2.0 as enabler environments can be compromised by the language barriers that many Saudi Arabian students still have when they enter Australian settings. At the same time, it was also shown how the gender segregation culture that Saudi Arabians have been used to can still find its way in the e-learning 2.0 setting and cause some students to retract from interactivity.

### 6 Conclusions

The paper provided insights on how Saudi Arabian students studying in Australia engage in e-learning 2.0 environments in Australian higher education. Firstly, it was found that students have a variety of experiences

with E-learning 2.0 in Australia. These include the use of such Web 2.0 tools as Twitter, Facebook, YouTube and wikis. Second, it was found that the e-learning 2.0 environment provides a good way for Saudi Arabian students to ease into the Australian education setting. Through the affordances provided by e-learning 2.0 resources, such as the ability to communicate to classmates and teachers without needing to face them, Saudi Arabian students feel more comfortable with engaging in online interaction, and become better prepared to do so in face to face settings later on. The students generally expressed that E-learning 2.0 gave them the opportunity to learn from their classmates, and made them appreciate the value of peer knowledge.

On the other hand, when we look at emerged factors through the discussion of other axial codes; 'Influence of Cultural Practices' and 'Overcoming the language barrier', two major challenges were identified; gender segregation and language barriers. While e-learning 2.0 led to students participating in a gender-neutral environment, the prevalence of their enculturation on gender segregation hindered some of the students from interacting as actively as they could. The language barrier was also found to be an extra, initial barrier that Saudi Arabian students needed to break through first before they could utilise e-learning 2.0 opportunities to their utmost potential to gain a deeper and wider understanding of their studies.

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