



The  
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## **Participants' Perceptions of MOOCs in Saudi Arabia**

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THESIS SUBMITTED FOR THE DEGREE OF DOCTOR OF  
PHILOSOPHY (PhD)

School of Education  
The University of Sheffield

September 2018

## **Abstract**

Massive Open Online Courses (MOOCs), which are typically short courses offered free to anyone with Internet access, provide opportunities for online education regardless of participants' gender, professional status, qualifications, age or location. Since the international introduction of MOOCs in 2008 in Canada, the United Kingdom and the United States, they have attracted public attention and online learning researchers have already made headway in investigating their essence. However, although MOOCs were introduced to Saudi Arabia in 2013 and have gained the attention of Saudi government sectors such as the Ministry of Labour, little research has been published on the effects of MOOCs in the country. Therefore, this research, to the best of my knowledge, is the first to explore Saudi participants' perceptions of MOOCs.

As a Saudi teaching assistant at King Saud University in Riyadh (Saudi Arabia), I can see a clear trend in Saudi education towards online learning. The use of online learning is perhaps one of the most important current developments in the education system (Algahtani, 2011) and it would be difficult to dispense with this kind of learning now. Therefore, after consulting with several Saudi professors in educational technology, I concluded that investigating Saudi participants' perceptions of MOOCs could make a significant contribution to the evolution of Saudi education generally and online learning in particular, thus contributing to improving Saudi people's culture.

This study aimed to explore the cultural implications of MOOCs for Saudi participants with the main objective being to identify Saudi participants' perceptions of MOOCs, specifically the impact of MOOCs on participants' lives, their pedagogy and learning design, and their social environment. The data was collected using mixed methods through conducting surveys, observation, and interviews with participants. Consequently, participants' perceptions are

linked to the literature review and discussed in detail in relation to the Saudi Arabian context. Furthermore, recommendations are offered on how to maximise the potential of MOOCs alongside suggestions for further research.

The conclusion of this study asserts that MOOCs are widely used by Saudi participants, especially women, due to MOOC flexibility and their contribution to the development of educational cultures. MOOCs contributed to improving participants' knowledge and personalities, as well as developing their educational and professional lives; however, the study revealed that the benefits participants gained from MOOCs varied depending on their positions and aims. In addition, the findings showed that participants' views regarding the effectiveness of the pedagogy and learning design of MOOCs differed. Moreover, the study highlighted several factors that affected participants' learning in terms of course design and the rules of participation, and some insights are provided that could address the concerns participants raised. MOOCs can contribute to attaining Saudi Arabia's Vision 2030 by providing courses that focus on educating Saudis and imparting the skills required for future employment and for effectively carrying out the jobs recently allocated to citizens.

## **Acknowledgements**

Praises be to Allah, the Most Beneficent, the Most Merciful. Praise as befits the Glory of Your Face and the greatness of Your Might, for your conciliation, protection, and during the completion of my PhD journey.

I owe a huge amount to the people and organisations that facilitated and supported this study. First, I would like to express my sincere gratitude to my supervisor, Dr. Julia Davies, for her tremendous encouragement, helpful guidance, and support. Her continuous advice and valuable comments enriched my experience and improved my work.

I am also very grateful to the owner of the MOOCs platform of this study and the support team, especially Ms. Deemah, for their positive responses, collaboration, efforts, and understanding that helped me collect my data. I also extend thanks to all the participants for their time and enthusiasm about sharing their views about their experiences. Indeed, I am very grateful for all the prayers, wishes, and encouragement that I received by email from many people regarding my study. These messages had a tremendous impact on my personality and pushed me to make a greater effort to explain their views and aspirations. The participants' words and comments gave me unexpected moral support.

Finally, my deepest gratitude goes to the most precious people in my life who gave me the energy and passion of learning, giving, and success: my family. Special thanks and appreciation for my lovely parents Sarah and Abdulrahman, my sisters, and brothers, especially Bander: thank you for your love, protection, care, prayers, and endless support and encouragement.

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## CHAPTER 1: Introduction

Modern technologies have been employed in the development of education, for example multimedia for self-learning and doing educational exercises with instant feedback. In addition, new forms of learning have emerged with the Internet, such as online learning and distance learning, and many universities throughout the world have participated in this project. These types of educational experience are in high demand as they facilitate learning from anywhere and at any time, and as Davies (2017, p.3) argues, participation is often motivated by the contemporary “lure of shiny gadgets” via which we access new resources. One of the most recent forms of online learning is Massive Open Online Courses (MOOCs), which constitute the context of this study.

In the following section I explain the importance of this study and its rationale. I then discuss the definition of online learning and the unique characteristics that have led to the emergence of MOOCs to meet the large learning demand. Moreover, drawing from the literature, the general features of MOOCs are summarised. Finally, I provide the definitions of the terms *perception* and *culture* in relation to the literature review and to the context of MOOCs.

### 1.1 The Problem of the Study and its Rationale

MOOCs are being used in many countries globally and have attracted the attention of the Saudi Arabian government. In 2014, two Saudi platforms for MOOC were introduced under the brand names of Dorooob and Rwaq. These platforms have had a significant role in Saudi Arabia for two main reasons:

1. The government of Saudi Arabia has mandated that universities make education available to each individual, however, the population in the country is growing very quickly (Albalawi, 2007, p.5). Hence, universities face significant challenges to provide

free learning to all citizens as stipulated by the system of public universities. In addition, many citizens in Saudi Arabia may not be able to attend courses at university campuses due to special needs, work commitments, or, in the case of women, being responsible for taking care of children.

2. Outputs from the universities do not match the needs of labour markets, especially with the rapid changes in information and technology, so working people or job seekers need more training to keep up to date with new knowledge; they can do this by attending courses that are flexible and without barriers in terms of schedule and location. Saudi Arabia is currently keen to modernise its workforce.

However, the MOOC is still a new approach, especially in Saudi Arabia, and has faced a lot of challenges, not only technologically but also culturally. This is due to the many factors related to the context of Saudi Arabia. The educational system is a conventional face-to-face system; it is gender segregated and usually does not support independent learning. Therefore, learners may face difficulties or challenges in having equal access to learning resources or in communicating with diverse groups of learners, especially because of Saudi customs and conservative communities. Nevertheless, the provision of Internet access with appropriate speed to all citizens is another difficulty.

Indeed, although Saudi MOOC platforms were introduced in late 2013, it seems minimal research has been carried out in this area and more needs to be done. Therefore, this study was motivated by a desire to understand the specific cultural implications of MOOCs for Saudi people and whether culture affected the perception of MOOCs. All education is free in Saudi Arabia, so it was clear that cost did not impact participation; however, it seems that other features of MOOCs did make working online and interacting with diverse groups of learners more attractive. I now hope the findings of this study will be useful in encouraging others to use and trust MOOCs, facilitate their implementation, and maximise their potential.

## **1.2 What is Online Learning?**

In recent years, there have been rapid changes resulting from scientific and technological progress. Dahlstrom and Bichsel (2014) argue that technology is a potential solution for the challenges faced by traditional education. These challenges include the vast amounts of information, the increasing number of students, and the long distances between students' locations and their learning institutions. They suggest that technology could make educational systems more affordable and effective and believe that using technology could play a significant role in the competition between institutions of Higher Education – and, I would add, international competition. In addition, some researchers have argued that learning processes should be flexible in dealing with the evolution of information and technology, helping human beings to evolve with contemporary changes and enabling them to solve their problems and gain the necessary resilience to achieve their goals (Folke, 2010 and Barnett, 2002, both cited in Kop et al., 2011).

There is a large body of literature that lists the benefits that technology can bring to education (for example, JISC, 2009; Kirkwood and Price, 2014; Mason and Rennie, 2006), including connectivity with others; anytime/anywhere access to learning resources; rapid feedback, and alternative modes of study, such as online and blended learning. According to Tobías et al. (2015), effective learning processes are usually enabled by technological tools that foster the creation and development of knowledge and information. Effective technology improves the experience of face-to-face learning. This means that educational technology has disrupted the idea that teachers and educational institutions should control education.

There has been extensive discussion regarding the comprehensive definition of online learning; the terms already in existence have been inclined to convey the objectives of online learning or the way in which it has been utilised. Moore et al. (2011) argue that defining online learning can be especially difficult when it is compared with other learning modes such as e-learning



and distance learning; this could be due to the overlap of the online concept with other education concepts such as blended learning or distance learning. I discuss the nuanced differences these terms encapsulate – noting first there has been much debate regarding definitions and distinctions.

Naidu (2003, p. 11) proposes that when it refers to the intentional utilisation of networked Information and Communications Technology (ICT) to mediate learning activities either using synchronous activities such as video conferences or asynchronous activities such as blogs and discussion forums, online learning could be a synonym for a number of other terms. These terms include virtual learning, Web-based learning, distributed learning, and e-learning (Naidu, 2003, p.11). Upon closer scrutiny, however, these terms each refer to different concepts, and as such, they cannot all be used synonymously (Thiyagu, 2011, p.232) under the umbrella term *online learning*. Grasley (2014) clarifies this by stating that online learning encompasses concepts of educational technology such as e-learning and blended learning when it uses "online tools for learning". This is the case regardless of the students' locations when they use the Internet.

On the other hand, Moore et al. (2011) argue that some researchers prefer to distinguish between online learning as “wholly” online learning and learning which simply utilises a medium amount of technology. Consequently, they view students of online learning as those who use the Internet exclusively for the entire learning process. Other forms of learning, such as blended learning, employ a medium amount of online technology. They employ the Internet for a portion of the learning and students also benefit from face-to-face learning. In addition, online learning could be described as (i) an online learning form (synchronous vs. asynchronous) and as (ii) instructor-led versus learner-led (Lowenthal et al., 2009). With synchronous online learning, a student meets the faculty member of the course online through streaming video and audio at a predetermined time, so learning here is not flexible in terms of

time, whilst a student with asynchronous online learning can choose the most suitable time for him/her to learn with the materials, participate in the learning activity, and contact the faculty member, who may not be available for immediate replies to their comments or questions (Mirza, 2007, p.5). 'Instructor-led' is used to describe official university courses where the instructor becomes the facilitator and guide to the learners, whereas 'learner-led' is used to describe the flexibility of being self-paced provided by online learning (Lowenthal et al., 2009). This suggests that online learning might be referred to as any method that students use to acquire new information via using the Internet.

Coldwell et al. (2008) confirm that online learning can be defined as any course that offers all its materials (including educational content, learning activities, assessments, and support services) via the Internet; thus, learners have the capacity to participate and communicate regardless of time and place. By using this concept, many researchers consider online learning as an updated or newer version of distance learning (Benson, 2002, and Conrad, 2002, both cited in Moore et al., 2011) with the aim of providing learning opportunities to those who live in deprived areas or who aspire to improve themselves professionally and educationally. However, there is a series of opposing perspectives. Means et al. (2009) oppose the notion that online learning is assumed to be an improved version of distance learning because they identify two purposes of online learning which do not always support a distance learning approach: (i) to act as an alternative to face-to-face learning and (ii) to enhance face-to-face learning (Means et al., 2009). Indeed, it is important to make a distinction between distance learning and blended learning. Distance learning does not include face-to-face learning, whereas blended learning involves students in face-to-face learning or activities. Hence, online learning could be integrated with distance learning as well as blended learning when it uses the Internet to provide the learning either wholly or partially.

By analysing the various definitions of online learning as discussed above, Hew and Brush (2007) specify the varying interpretations regarding online learning by outlining prominent definitions of the term, maintaining the notion of instructional use; their argument is that online learning relates to the utilisation of Web-based tools, including devices such as tablets, smartphones and laptops/computers, and there are also various software applications such as Learning Management Systems (LMS) for the use in providing instruction online. Therefore, it excludes forms of correspondence learning that do not rely on the Internet such as videoconferencing, videocassettes, and broadcast television or radio (Means et al., 2009).

It is generally recognised that online learning has numerous attributes, incorporating the capacity of two-way communication through discussion networks and online discussions so that learners can acquire the advantages of conversing with their peers and their tutors (Paulsen, 2002). Consequently, investing in online learning mechanisms could be significant in helping learners and enhancing their knowledge. For example, incorporating online discussions into online learning could have beneficial effects on student performance. Furthermore, Davies and Graff (2005) state that there is a greater probability of online learning encouraging student-centred learning. This incentivises learners to partake in lessons in a creative manner. Andrews and Haythornthwaite (2007) support this perspective as they conceive of learning as a framed activity that encourages enthusiasm and concentration in learners; they assert that previous studies in educational technology have assumed that technology enhances independent learning, which usually happens online. Despite this, Ibrahim (2011) argues that using technology in learning fosters social learning: students become responsible for their own learning by conducting research and engaging in valuable discussions with their peers and facilitators (theoretical perspectives of learning are discussed in Section 3.3).

However, as discussed by Anderson (2008, p.20–21), there are implications to consider when using online learning: (i) the expectations of learners' outcomes should be clearly defined so

they can judge whether they have achieved their goals or not for themselves; (ii) learners should be assessed by using online testing in order to provide them with feedback about their learning; (iii) the learning materials should be carefully sequenced (such as from simple to complex, from known to unknown, or from knowledge to application); and (iv) feedback should be considered essential as it helps learners monitor and take action about their learning.

Recently, online learning has undertaken rapid development in Higher Education and become one of the quickest growing universal concepts within the educational sphere. According to Allen and Seaman (2013, p.17), the percentage of students who were enrolled in online learning courses in degree-granting postsecondary institutions in the US increased from 9.6% in 2002 to 32.0% in 2011. This global trend has also been seen in Saudi Arabia, and in 2011 the Ministry of Higher Education established the Saudi Electronic University, which offers distance education in different disciplines (Alturki, 2014). Moore and Kearsley (2011, p.8) provided the rationale for online learning, including providing equal opportunities in access to learning, updating skills, and adding an international dimension to expand the educational experience. As a result of the increasing popularity of online learning alongside the mandate of universities to offer knowledge to wider society and provide learning to those outside their own institutions (Glance, 2013), these factors may contribute to the emergence of a new approach to learning that serves a massive audience. This new approach was named Massive Open Online Courses (MOOCs), which are self-evidently the context of this study. Songbin and Fanqi (2015, p.1368) claim that online learning is moving towards Massive Open Online Courses (MOOCs) because of the continuous development of technology in networking and cloud computing. White et al. (2014, p.6) provide seven generations of distance education which can be used to categorise the development of MOOCs:

- First generation: used mail in learning as a “correspondence model”.

- Second generation: incorporated learning materials by using particular technologies such as video.
- Third generation: referred to as “telelearning” because learning used telecommunication tools such as videoconferencing. This concept emerged with the idea of open-and-flexible learning.
- Fourth generation: provided learning experiences in a flexible model by using various technologies including the Internet.
- Fifth generation: saw the emergence of virtual environments in learning.
- Sixth generation: characterised by the implementation of Web 2.0 tools, which increased interaction in learning by using social networks such as wikis and blogs.
- Seventh generation: by this point, MOOCs should be making substantial impacts, creating turning points in universities and distance education; however, the current understanding of MOOCs in formal education environments would imply that it is too early to make such a claim.

### **1.2.1 Summary**

I stated in the previous section that the definition of online learning would be discussed because it represents the mode of studying in MOOCs (Massive Open Online Courses), the context of this study. Online learning is a form of distance learning that has emerged as a result of using the Internet and effective multimedia technology in learning. Based on an analysis of previous literature, online learning can be defined as acquiring information and skills via the Internet for online learning purposes regardless of one’s location. In addition, online learning is part of a blended learning approach, and this has been used in the majority of universities around the world.

### **1.3 Overview of MOOCs**

Massive Open Online Courses, or MOOCs, have received a significant degree of scrutiny of late. This has originated from the press, those who have been successful in business, those working in education, and individuals with a technological ability or interest (Yuan and Powell, 2013). The innovation of MOOCs fostered a great debate and discussion in the Higher Education community (Pirani, 2013; Sandeen, 2013) because the unprecedented scaling of MOOCs to deliver online learning to an unlimited number of learners gave insight into scaling education with quality (Sandeen, 2013). Pirani (2013) adds that MOOCs caused considerable debate regarding their impact on the traditional credit and revenue-based degree model, their ability to expand access to Higher Education more globally and to non-traditional students, and their impact on learning pedagogy, assessment and faculty members.

On the other hand, there is a strong debate concerning the distribution of open and free content to a massive number of participants in different places as a consequence of the introduction of MOOCs in comparison to education through traditional academic institutions. Daniel (2012) indicates that the capacity of MOOCs to provide free, accessible and innovative sessions worldwide has made such course a popular concept within modern society. Tobías et al. (2015) support this claim by confirming that the digital repositories that offer open access to free information for any individual around the world are the interesting aspects of MOOCs. In this case, their freedom and openness may be considered as the main factor of their success in many contexts. However, as mentioned earlier, all forms of Higher Education are free to access in Saudi Arabia and, therefore, the attraction was unlikely to have been motivating factor for participants at the outset.

The growth of MOOCs is based on the values of openness and the notion that knowledge should be widely spread, regardless of geographical, financial or demographic considerations

(Yuan and Powell, 2013). The first MOOC, introduced in 2008 at the University of Manitoba, aimed to follow Ivan Illich's (1971) commandment that an educational system should:

Provide all who want to learn with access to available resources at any time in their lives; empower all who want to share what they know to find those who want to learn it from them; and, finally furnish all who want to present an issue to the public with the opportunity to make their challenge known. (cited in Daniel, 2012, p.3)

Since then, numerous MOOCs have been developed by universities around the world. Examples include the Open University's FutureLearn project in the United Kingdom and MIT's edX project in the United States. Sandeen (2013) claims that as they gained prominence in 2012, MOOCs changed our awareness to thinking about them either as a solution for postsecondary attainment gaps or as a new disruptive technology that would radically change Higher Education; however, he believes that a year later MOOCs were probably somewhere in between.

Since that time, many studies have tried to provide a clear definition of MOOCs in order to distinguish these courses from any other online learning. For example, De Waard et al. (2011a, p.10) describe MOOCs as informal courses that have great potential for lifelong learning. In particular, their practical implementation in mobile learning means that they can be used without the learner being tied to a particular location and context (De Waard et al., 2011a, p.10). Hoy (2014) describes such courses in terms of resources as a new type of online learning that allows anyone to join and participate in the class from anywhere by watching video lectures, using electronic texts and engaging in forum discussions. Moreover, Bartolomé and Steffens (2015) argue that MOOCs can be perceived in terms of context and learning as a new form of an online technology-enhanced learning environment due to their role in facilitating active learning, in the form of social context including peers and lecturers.

According to Saadatmand and Kumpulainen (2014), the main reason for the rapid spread of MOOCs in Higher Education might be related to the flaws of the traditional educational system, namely the inability to reach a massive number of learners by using open technologies. Further to this, MOOCs allow participants to join any course regardless of their qualifications or locations. Nevertheless, such platforms have a vetting system that recommends certain courses to each learner based on his or her preferences or background, and this could encourage people to take more MOOCs.

When linking the emergence of MOOCs with Higher Education, it is important to note that the idea of universities employing online learning throughout the world is not new (Leontyev and Baranov, 2013, p.1533). For instance, many universities use Learning Management Systems (LMS) for distributing lecture content, receiving students' assignments and sending grades. However, Leontyev and Baranov (2013, p.1533) point out that access to LMSs is restricted to university faculty members, students and staff who are working at the university. In addition, Boyers (2013) distinguishes between traditional online learning and MOOCs through the argument that online learning is designed for learners who seek credit towards a degree or certificate and usually lecturers engage and interact within the course, which MOOCs do not necessarily require. Thus, the distinct features and the approach of MOOCs is essentially to distribute free online content to a massive number of participants across distributed environments that are usually integrated with a social network such as Twitter, Facebook, Instagram, YouTube and Google+ in order to help the participants in obtaining a supportive community that leads to knowledge sharing (Vivian et al., 2014). Initially, MOOCs were offered free to all learners without any fees and without any admission requirements or prerequisites (Sandeem, 2013), although now it seems that some are offered with optional and/or compulsory aspects that charge fees (for example, the cost of joining the *Using Oracle for Planning and Managing Projects* course at Maharah platform is 120.00 SAR).



However, despite these courses becoming more prevalent, Bali (2014) claims that MOOCs are not the theoretically new revolution they seem. She argues that MOOCs are more likely to be an extension to two already established phenomena: (1) virtual learning, which has been growing in the last few decades (Butcher and Wilson-Strydom, 2013, cited in Bali, 2014), and (2) open educational resources such as iTunesU (Yuan and Powell, 2013, cited in Bali, 2014). Petkovska et al. (2014) support this idea as they believe that MOOCs arose from the OER (Open Educational Resources) movement which was promoted in 2002 at a UNESCO forum. Furthermore, Glance et al. (2013) argue that there is no single, agreed-upon definition of MOOCs. This might be the result of the unclear values and the many different forms which currently exist (Swope, 2013). For this reason, Bali (2014) argues that it could be more accurate to realise there is no specific goal applicable to all MOOCs. This highlights that it is difficult to generalise about the ultimate goal for MOOCs even in the same country, especially as they are not identical in terms of the learning activities and support provided. For example, some MOOCs offer participants plentiful opportunities to obtain support and help to communicate and interact effectively by providing peer-assignments, online recourses, maps and forum discussions, whereas other courses do not offer any level of interaction between participants. These contrasting views on the relative novelty of MOOCs suggest that there is a lack of description of the features and characteristics that can be provided to participants.

For example, I have participated in four different courses that are available in two pioneer platforms. Although I found each MOOC in which I took part useful to me as a participant, they all demanded a different level of rigor and engagement in terms of assessment and required interaction with other participants. Resulting from my diversity of experiences, I have compared these four courses (below) in order to understand the extent of the differences among their characteristics. I used a similar form to Bali (2014) when she compared four MOOCs. To preserve confidentiality, I have anonymised all course details (platform, title, lecturer, etc.). In

Table 1.1, I have differentiated among the four courses by using five characteristics: length, target participants, course components, flexibility, advantages and disadvantages.

Table 1.1 Comparison of the Four MOOCs

Course (C)	C1 (Nutrition)	C 2 (Teaching and Learning)	C 3 (Information Technology)	C 4 (Personal Skills)
<b>Length</b>	Self-paced 5 hours	6 weeks of study 1–3 hours/week during workweek	5 weeks of study 2–4 hours/week	3 weeks 3 hours per week
<b>Target participants</b>	Anyone interested in healthy home-cooked meals	Students who need to be successful during their undergraduate experience	Educators interested in educational technology and/or online instruction	Anyone applying for jobs and those who need to update their skills
<b>Course components</b>	<ul style="list-style-type: none"> <li>• Video mini-lectures</li> <li>• Quizzes (multiple attempts)</li> <li>• Recommended readings</li> </ul>	<ul style="list-style-type: none"> <li>• Announcements board</li> <li>• Weekly video mini-lectures with clear objectives and activities</li> <li>• Discussion forums</li> <li>• Guidance in different forms, which include               <ul style="list-style-type: none"> <li>○ Getting started</li> <li>○ Syllabus</li> <li>○ Grading and logistics</li> </ul> </li> <li>• Exercises, which include:               <ul style="list-style-type: none"> <li>○ Two assignments peer assessments</li> <li>○ Final test (multiple attempts)</li> </ul> </li> <li>• Downloadable lecture packages that contain all the materials of each lecture</li> </ul>	<ul style="list-style-type: none"> <li>• Announcements board</li> <li>• Guidance in different forms, which include               <ul style="list-style-type: none"> <li>○ Syllabus</li> <li>○ Weekly roadmaps and objectives</li> </ul> </li> <li>• Downloadable short weekly lecture videos (with embedded quiz questions) and lecture slides (PowerPoint files)</li> <li>• Weekly quizzes</li> <li>• One assignment peer assessment</li> <li>• Final exam (multiple attempts)</li> <li>• Class map</li> <li>• Discussion forums</li> <li>• Recommended textbooks and suggested but not required readings</li> <li>• Extended community on Google+</li> </ul>	<ul style="list-style-type: none"> <li>• Weekly video mini-lectures</li> <li>• Discussions to help the participants in learning and supporting each other</li> <li>• Exercises and quizzes to promote self-reflectivity</li> </ul>

<b>Flexibility</b>	No deadlines for the quizzes, so participants can join the course and answer the quizzes at any time	Strict deadlines for submitting the assignment, peer assessments and the final test, although the final test is available to answer from the starting date of the course; however, all videos can be sped up or down	Strict deadlines for submitting the assignment, peer assessments and the final test	No deadline for completing the quizzes, so participants can do them at any time
<b>Advantages</b>	<ul style="list-style-type: none"> <li>• Subtitles: Participants can view text written in conjunction with the video voice in different languages</li> </ul>	<ul style="list-style-type: none"> <li>• The vast majority of the participants were very pleased with the course especially because it is very realistic and provides many opportunities to share and discuss their experiences and opinions through the activities and forums</li> <li>• If the learner forgets to assess three of his/her peers, a 20% penalty is applied to his/her own assignment</li> </ul>	A grading rubric is included to guide learners in peer reviews	<ul style="list-style-type: none"> <li>• The participants are encouraged to introduce themselves through discussion forums at the beginning of the course and share ideas that raise their social presence</li> <li>• The feedback from quizzes is effective as it gives explanations</li> <li>• Throughout the course participants are encouraged to collect a portfolio of their work, which will help them with future applications</li> </ul>
<b>Disadvantages</b>	Discussion forums are not available in the course; therefore, there are limited chances for participants to share their experiences	<ul style="list-style-type: none"> <li>• It does not provide reading lists or resources to the participants</li> <li>• Lack of feedback regarding peer assessment</li> </ul>	Lack of explanations about test answers and feedback	Not all lectures provide videos; most of them are presented as text on a screen

From my experience in participating in these four courses, I realised that the provided guidance and direction seemed more likely to increase my persistence as a learner, especially when the

course was useful and interesting for me. I found that some lecturers encouraged participants to engage in discussion, potentially giving them (us) the feeling of having a community atmosphere that encouraged us to introduce ourselves and give support and advice to each other. In addition, the availability of subtitles in conjunction with the spoken words in videos afforded the opportunity for deaf or hearing-impaired people to participate and benefit from these courses, which I felt resulted in providing equal opportunity for all learners. My experience in these courses confirmed my desire to look at how other participants perceived their experiences within MOOCs.

### 1.3.1 Summary

MOOCs must have key features that differentiate them from any other online courses. These are the open access as well as the ability for any individual to join these courses without charge (Yuan and Powell, 2013). Furthermore, MOOCs have been designed to have the scope to allow an open-ended quantity of individuals to partake in the course (Yuan and Powell, 2013). In addition, they aim to support communication and interaction between the participants as well as develop resources and provide learning flexibility (Vivian et al., 2014).

Having discussed the definitions of online learning and MOOCs, I am able to summarise the features of MOOCs in Table 1.2.

Table 1.2: Some Features of MOOCs

<b>Features</b>	<b>Online learning</b>	<b>Face-to face learning</b>	<b>Synchronous communication</b>	<b>Asynchronous communication</b>
<b>MOOCs</b>	√	X	√	√

## **1.4 Defining of Key Terms**

The purpose of this study is to determine the cultural implications of MOOCs for Saudi participants through investigating Saudi participants' perceptions. Therefore, it is crucial to define the main terms that are used throughout this study, 'perception' and 'culture', to provide readers with a full understanding of the discussions. These definitions are explained in more depth below.

### **1.4.1 Understanding the Term Perception**

Perception is a key concept which has been explored in different ways within the research of social science. Bodenhausen and Hugenberg (2009, p.16) stress the importance of exploring conceptualisations of social perception, seeing it as a central term. In addition, Centra and Gaubatz (2005, p.2) believe that studying learners' perceptions of learning in various courses can make findings more generalisable, applying not to just one but many courses. Certainly, understanding individuals' perceptions of MOOCs in this study could allow us as researchers to suggest modifications that may increase the efficiency of MOOCs for Saudi learners; this could assist stakeholders, such as platforms and universities, in thinking about how to make MOOCs more effective as a way of developing and educating people in a range of disciplines, especially in this era of social media and the digital economy where online learning seems to have become more in demand. However, Pickens (2005, p.69) argues that perceptions can be biased due to the influence of certain factors. Therefore, it is important to discuss the concept of perception by exploring its meaning and clarifying how people form their perceptions.

According to Bruce et al. (2003, p.3-4), perception is described as the capacity of a living thing to detect structures and events in its environment and, in order to do so, it must be responsive to at least one form of enabling energy. Light is an energy form that permits animals and

humans to have vision (Bruce et al., 2003, p.3-4), such that visual perception concerns being able to see objects, surfaces and events in the environment. The connection of the eye to the brain is the means by which a stream of pictures is sent to the brain for processing (Bruce et al., 2003, p.23-24). Two salient theories about perception have been under contention in the discussion about online learning. These theories are commonly referred to as the top-down and the bottom-up approaches; they both use the example of how our vision, what we see, is received and interpreted.

The theory of perception, attributed to Gregory (1971), suggests that information is processed in a top-down manner; the image received by the brain might be unclear and, therefore, accurate and definite deductions might not be made so that instead intelligent guessing might be required (Gregory, 1997, p.5); up to 90% of possible visual information may be ignored or lost (McLeod, 2007). Another barrier to accurate visual interpretation of the image signals could be that the original object viewed by the eye is three dimensional, whereas the signal relates to a flat image (McLeod, 2007). This potential for ambiguity in interpreting signals sent to the brain is somewhat minimised because the brain employs higher cognitive information, meaning it stores and then compares the information to either past experiences or knowledge (McLeod, 2007). Therefore, Gregory deduces that perception is often partially constructed by an individual based on his or her past experiences or knowledge. In addition, Gregory suggests that the brain automatically tests a range of hypotheses to determine the meaning of all information sent by the eyes and other sense organs, combining this with stored knowledge (McLeod, 2007). As a result, as previous knowledge may be misapplied, the interpretation may be the consequence of a cognitive illusion such as curvature and length distortions (Gregory, 1997, p.1-2). Incorrect interpretations, the brain's choice of an incorrect hypothesis, can also lead to visual illusions (McLeod, 2007) or textures being assigned the incorrect source, for example, wood instead of plastic imitation and a face as being hollow (Gregory, 1997, p. 3-4).

This does not mean that there is an absolute reality that can be interpreted rightly or wrongly; instead, it entails that each visual illusion occupies a distinct hermeneutical continuum (for example, an interpretative space) that allows the viewer (the interpreter) to decode reality in a specific manner. This also applies to perceptions that are not visual. The top-down theory of perception means that an individual's perceptions are sometimes affected by the capabilities of the biological sense organs. Nevertheless, in those cases the brain attempts to decode reality by drawing on past experiences of similar situations.

Indeed, adopting only the top-down theory has negative implications, for example, in understanding the relevance of MOOCs to learners or in designing these courses to satisfy their expectations, since this theory supposes that each learner's brain could potentially choose a different hypothesis based on the individual's experiences and knowledge without considering the similarities of perceptions that could exist between them. The lack of similarities in the perceptions about MOOCs of different learners might make it difficult to understand the implications of MOOCs and to make suggestions for improvement.

On the other hand, Gibson's bottom-up theory (Gibson, 1966, cited in McLeod, 2007) suggests that processing of information and hypothesis testing based on previous learning to interpret what has been observed is not a reality; instead, the environment contains sufficient information for humans to make sense of what they observe in a direct manner, for instance size, shape, texture. This means that perception is a bottom-up process that evolves over time with regard to analysing the initially received sensory data (Bruce et al., 2003, p.6). The optic array or patterns of light reaching the eye comprise sufficient information for interpretation to occur and accurate data regarding how objects is arranged in a three-dimensional manner, as confirmed by the laws of reflection (Bruce et al., 2003, p.6). The light pattern changes appropriately as the human being moves but the standard features of what is observed do not, for instance the texture and physical dimensions (Bruce et al., 2003, p.6). Hence, the nature of

the optic array is dependent on the position of the surfaces from which the light has been reflected (McLeod, 2007). Perception is supported by other environmental cues referred to as affordances, for instance the relative brightness and size are associated with the distance from the object, objects closer to the observer appeared brighter and larger, and when one object obstructs the view of another the first appears to be closer (McLeod, 2007; Gregory, 1997). This direct interpretation is questioned by Gregory (1997) in the context of how a previously unobserved object could be interpreted by an individual. The bottom-up theory suggests that all learners would interpret their experiences in MOOCs and benefit from these courses in a similar manner regardless of their prior knowledge. However, since the direct interpretation of the observed objects is an evolutionary process, an issue then arises for the courses' designers if there are multiple learners who are not in the same stage of the process, for instance, a group of learners with different ages and different levels of expertise and from different places (Gregory, 1997). Costall (2017) concludes his article about Gibson's theory by confirming that understanding the term perception should not be limited solely to the psychological domain.

In fact, neither the top-down nor the bottom-up theory is adequate on its own and both theories seem to be recognised by Gregory (1997, p.1-5). According to Gregory (1997, p5), perception comprises specific top-down knowledge and general or sideways rules from past experiences or knowledge passed from generation to generation, as well as present bottom-up knowledge are all required for survival; the past, however, dominates in leading how we interpret present experiences. Therefore, in relation to my study, I find Gregory's theory (1997) to be the most relevant in explaining how learners perceive MOOCs. This theory suggests that perception is socially constructed and influenced by many factors. Indeed, as I show later, the perceptions of MOOC learners in my study reflected their motivations for learning, their expectations, and their previous experiences of online learning, meaning they perceived MOOCs differently,



although there are some similarities in their perceptions that could be due to their similarities in experiences or needs.

In addition, I have found it useful to consider how people's perceptions can be influenced by their inability to process a lot of information at once due to the selectivity of human attention (Bodenhausen and Hugenberg, 2009; Desai and Gupta, 2015; Pickens, 2005; Russman, 1981, p.23). The perceiver cannot observe everything in the context because of numerous stimuli that exceed the human brain's capacity to pay attention; instead, the perceiver selects some of the stimuli that are relevant to his or her prior experiences, background, interests, and attitudes in order to organise the information and interpret its meanings. The feature of this perceptual selectivity facilitates decision making by reducing the demands of information processing through structuring experience (Bower et al., 1979, cited in Desai and Gupta, 2015, p.5) and facilitating the acquisition and retrieval of information (Cantor and Mischel, 1977, cited in Desai and Gupta, 2015, p.5). For this reason, researchers need to look at many people's perceptions to interpret how a course is being perceived. For example, when I asked learners about their perceptions of the materials used in MOOCs, some focused on the organisation of the materials, the language used to deliver the content, and the attractive design. However, others concentrated on the content of the MOOC itself in terms of its usefulness to their lives both academically and professionally. Thus, although learners were asked the same question and completed the same MOOC, their perceptions varied and they considered things from different angles. Taking all this into account, all learners' views and perceptions about their experiences of MOOCs should be considered to improve the design of MOOCs and increase the likelihood of satisfying learners' multifarious needs and interests.

### 1.4.2 Understanding the Term Culture

According to Jones and Alony (2007), culture is a key concept in social science that has received constant attention from researchers; it has moved from being defined in quite specific and closed ways to becoming a term that now describes something that is less fixed and in a state of constant flux. Despite its important place in the social sciences, the impact of the term in research about Internet-based technology seems more limited. This could be because of the complexity and the lack of agreement in defining the concept of culture in social science, which is less stable (Belshek, 2006; Jones and Alony, 2007; Spencer-Oatey, 2012).

One of the pioneers in defining culture, whose work has been highly cited but also critiqued, is Hofstede (Jones and Alony, 2007). In 1980, Hofstede defined culture as “the collective programming of the mind which distinguishes the members of one group from another” (Hofstede, 1980, p.21–23, cited in Belshek, 2006). According to this theory, each group has their own culture where members share the same beliefs, attitudes, values and norms that influence each member’s behaviour in society. In addition, Avruch (1998, p.5–6, cited in Spencer-Oatey, 2012) includes an account of how people interact and communicate as part of the concept of culture because he believes that culture is derived from the experiences learned or acquired from one’s society. With this approach, culture could be related more to one’s social and cognitive aspects.

There are some doubts in the social science literature about the source of culture as some believe it is acquired through learning, whereas others tend to attribute it to heredity. This shows that the perception of one person regarding what a culture is like will differ from another person’s. Spencer-Oatey (2012) illustrates this point by turning to Hofstede (1994, p. 5–6), who identifies three terms that sometimes overlap with the concept of culture. Spencer-Oatey (2012) argues that culture is not inherited through one’s genes; rather, it is learned from one’s social environment. Therefore, culture differs from *human nature*, which is inherited through

one's genes, i.e. physical and basic psychological abilities. In this theory, every person has the ability to feel happiness, joy, fear, etc., which are associated with human nature; however, how these feelings are expressed or articulated is associated with one's culture. On the other hand, Spencer-Oatey (2012) emphasises that culture differs from one's *personality*, which he suggests is related to both the genes that are inherited from one's parents and one's unique personal experiences. An example of an individual's personality is one's traits. Belshek (2006) supports Hofstede's perspective in defining culture by pointing out that culture is not inherited but learned, and it affects everything people do in their society. For example, according to Hofstede's definition of culture, we could identify the culture of all Saudi individuals by distinguishing them based on the common characteristics of most Saudis, such as physical appearance and religion. However, it is important to state that Hofstede's work has been strongly critiqued as an 'ecological fallacy'. Guirdham and Guirdham (2017) identify that an ecological fallacy makes the wrong assumptions that the relationships observed for groups would inevitably be the same for individuals. Guirdham and Guirdham (2017) also identify research which shows that there is a substantial overlap, with a single value structure over two levels as valid. This means that when social level data is used, similar values are identifiable in individual and country levels; thus, Fischer and Poortinga (2012) identify the lack of justification in treating individual and country as separate structures.

Alternatively, however, Gerhart and Fang (2005) suggest that the depictions of national culture as alluded to by Hofstede are not applicable at an individual level as only a tiny fraction in the different values of individuals can be explained by national differences. Even Hofstede (1980) identified that only 4.2% can be accounted for by nationality. Pennycook (2007, p.13) identifies that "we are...as we are...because of what we do". Pennycook (2012) also argues that privileged mobility changes the perception of the contemporary self once individuals return to their own cultures. Ultimately, he suggests, when individuals leave their cultural comfort

zones, they change, but once they are back in their own cultures they revert to their former selves, roles, and identities. This can be identified when an individual from a Muslim country travels to a non-Muslim country where there may be little tolerance of Muslim traditions and thus hides them while there. In addition, researchers such as McSweeney (2013) and House et al. (2004) warn explicitly against the ecological fallacy of Hofstede (1980), with Minkov and Hofstede (2011, p.12) identifying that Hofstede's

Dimensions are meaningless as descriptors of individuals or as predictors of individual differences because the variables that define them do not correlate meaningful across individuals.

House et al. (2004, p.99) add that it is not appropriate to assume that "cultural-level characteristics and relationships apply to individuals within those cultures". McSweeney (2013) suggests that in determining national culture, an ecological mono-deterministic fallacy is a more fitting identification than the ecological fallacy due to the acknowledgment that national culture is identified as an independent ecological variable. This can be seen in the differences within a culture, for example Saudi Arabia due to diverse and cultural differences in the influences in terms of religion, behaviour, appearance, etc. This does not negate the fact that the people of Saudi Arabia have different perspectives on their own culture, though they can also be collectively identified as 'Saudi people'.

Furthermore, Jones and Alony (2007) argue that Hofstede's definition of culture is based on assumptions that need more explanation. They suggest that Hofstede does not recognise culture as dynamic; his view is incompatible with educational technology that changes frequently and has a significant effect on one's knowledge and the way technologies interact with each other (Jones and Alony, 2007). Therefore, Jones and Alony (2007) recommend conducting further research to provide a better understanding in this area.

Indeed, Jones and Alony's (2007) argument about the meaning of culture is compatible with that of Street (1993), who argues that culture needs to be treated as a verb rather than a noun.

Culture as a verb means “an active process of meaning making” (Street, 1993, p.25). Individuals co-create culture and are part of it (Street, 1993). In this sense, rather than being static culture is constantly changing through the experiences and knowledge that individuals gain and develop over time, which helps them reproduce and recreate their own culture. The changes in every individual’s culture come from his experiences in reaction to new ideas, inventions, and practices (Herskovits, 1945), and this process continues throughout each individual’s life. Therefore, an individual’s culture changes constantly and these changes affect the individual’s behaviours, attitudes, and values. The idea that culture differs from one person to another and that it is constantly changing in every individual is worth noting due to its relevance to this study.

From the discussion above, it is important to consider an individual’s culture in designing and implementing educational technology as it has a fundamental role in the success of this experience. In some cases, it might be necessary to adopt some points on each educational technology to respond to local needs. For example, by using Internet-based instruction with Saudi students, it might be essential to consider certain factors that help learners become more satisfied. This could be done by choosing meaningful content in their lives and ensuring that discussions and the contents respect all the participants and do not offend the Islamic principles.

Overall, it is clear that culture is considered a complex concept which has different definitions in literature; thus, for the purpose of this study, I define the concept of culture as the knowledge and experiences that Saudi people acquire by using MOOCs, which then impacts their lives scientifically, practically, and socially.

## **CHAPTER 2: Context of the Study**

Lee et al. (2014) claimed that MOOCs might emerge in the Middle Eastern countries over the next few years, which could result in a number of Arabic platforms (AMOOOC) that produce courses by Arab professors and experts. We have now witnessed this prediction. Therefore, I have found that studying the cultural implications of MOOCs in Saudi Arabia, the context of this study, is important for its educational institutions and all other sectors that may use MOOCs, such as the Ministry of Labour.

This chapter provides clarifications about the current status of MOOCs by exploring MOOC platforms in Saudi Arabia and highlighting their importance.

### **2.1 The Rise of MOOCs in Saudi Arabia**

The mother tongue for Saudi people and more than 350 million people in total is Arabic, which is the seventh-most-used language on the Internet (Sawahel, 2014). MOOCs have received a high level of attention in Saudi Arabia, the context for the study, as well as other Arabic countries. As a result of the interest in MOOCs, many initiatives in many Arabic countries such as Saudi Arabia, Jordan, Lebanon, and Egypt have launched not-for-profit Arabic platforms in order to deliver high-quality academic courses for Arab speakers. Although it was initially conceived that the early MOOC platforms such as Coursera and edX would be the most dominant even in the Arab world, there are signs which indicate that the local platform has attracted a massive audience (Macleod et al., 2015); this may be due to the mono-lingualism of many Arabs, including Saudi people, and this barrier limits their use of foreign platforms. In Saudi Arabia in particular, many platforms have been launched and have had a warm reception from people in both Saudi and other Arab countries. The following sections provide a general overview of these Saudi MOOC platforms.

### 2.1.1 Rwaq MOOC platform

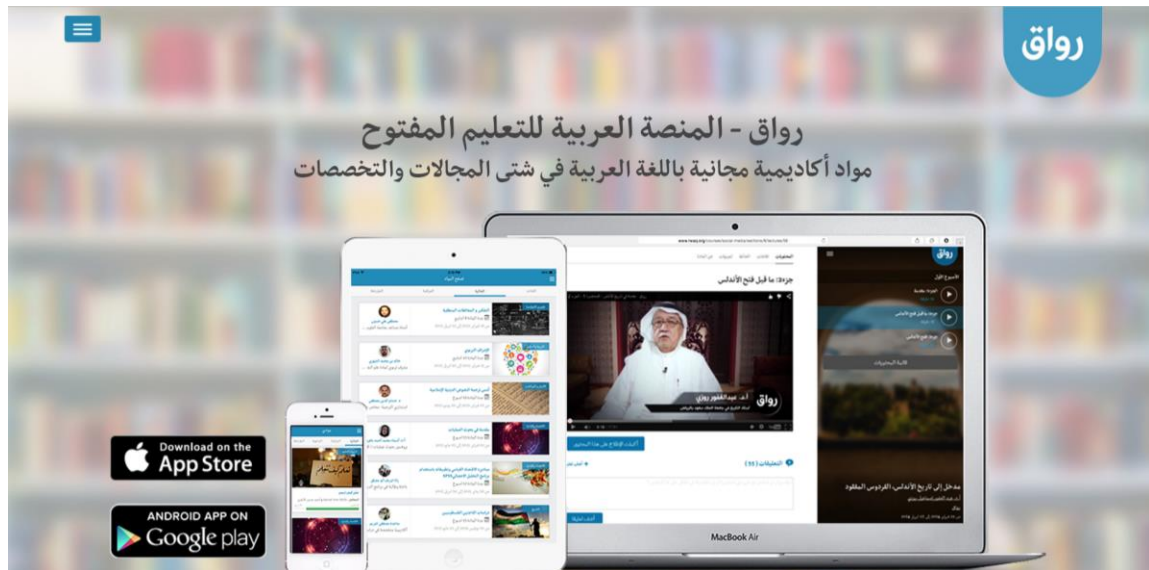


Figure 2.1: Rwaq Homepage Screenshot, 2017  
Taken from <http://www.rwaq.org/>

The homepage uses well known branding to endorse the modernity and connectivity of the course; it projects images of mobile devices and a laptop as ways of accessing the courses, displaying apps which resemble social network sites. This marketability of Western-associated texts is also combined in the apps with a traditionally dressed Arab male and Arabic script. The impact is one of modernity but also of a culture that embraces and values Arabic traditions. Rwaq is the first initiative in the Arab world and was launched in September 2013 by two Saudi entrepreneurs named Fouad Al-Farhan and his friend, Sami Al-Hussayen (Al-Omran, 2013). This platform was built from scratch as Al-Farhan and Al-Hussayen believe that the Arab world deserves to have platforms specifically designed for Arab speakers without needing to translate the materials into Arabic (Macleod et al., 2015). The content is fully Arabic and has been developed by Arabic professors and experts from a range of disciplines and specialisations (Curley, 2013) who seek to share their scientific knowledge with those who are outside the walls of universities. Thus, this platform has acquired a positive reputation from education

institutions (Lee et al., 2014). However, Rwaq has attracted learners from non-Arabic countries, such as the USA (3.17%); this might be due to the use of Rwaq by Arabs residing in non-Arabic countries, as well as the increasing popularity of online learning by non-Arabs via the Arabic language (Macleod et al., 2015).

There are a considerable number of courses in Rwaq that have been disseminated in collaboration with qualified professors from Saudi Arabian universities, such as King Saud University (KSU), Taif University, King Abdulaziz University, etc. Although this platform has yet to provide an official certificate from an academic-certified institute (At the time of writing, 2018), it sometimes gives a certificate of accomplishment when learners complete their courses. Al-Farhan states that as a result of having “tens of thousands” users recently, they have conducted negotiations with five universities to have licenced access to the Rwaq platform for their online courses (Al-Omran, 2013).

The learners using Rwaq include university students, job seekers, employees, and anyone who is interested in advancing their knowledge. Rwaq has different categories of courses, including economics and management, education, science and technology, medicine, engineering, art, religion and history. The wide range of courses represents different disciplines in traditional university courses. For example, under the category of education, Rwaq has a course called *Teaching in University Education* and its instructor is Prof. Rashid Al Abdulkareem, a faculty member in the Curriculum and Instruction Department at King Saud University. In addition, according to a report conducted by Class Central in 2015 on the top platforming providers of MOOCs, Rwaq had 1.83% of world production of MOOCs (Shah, 2015).



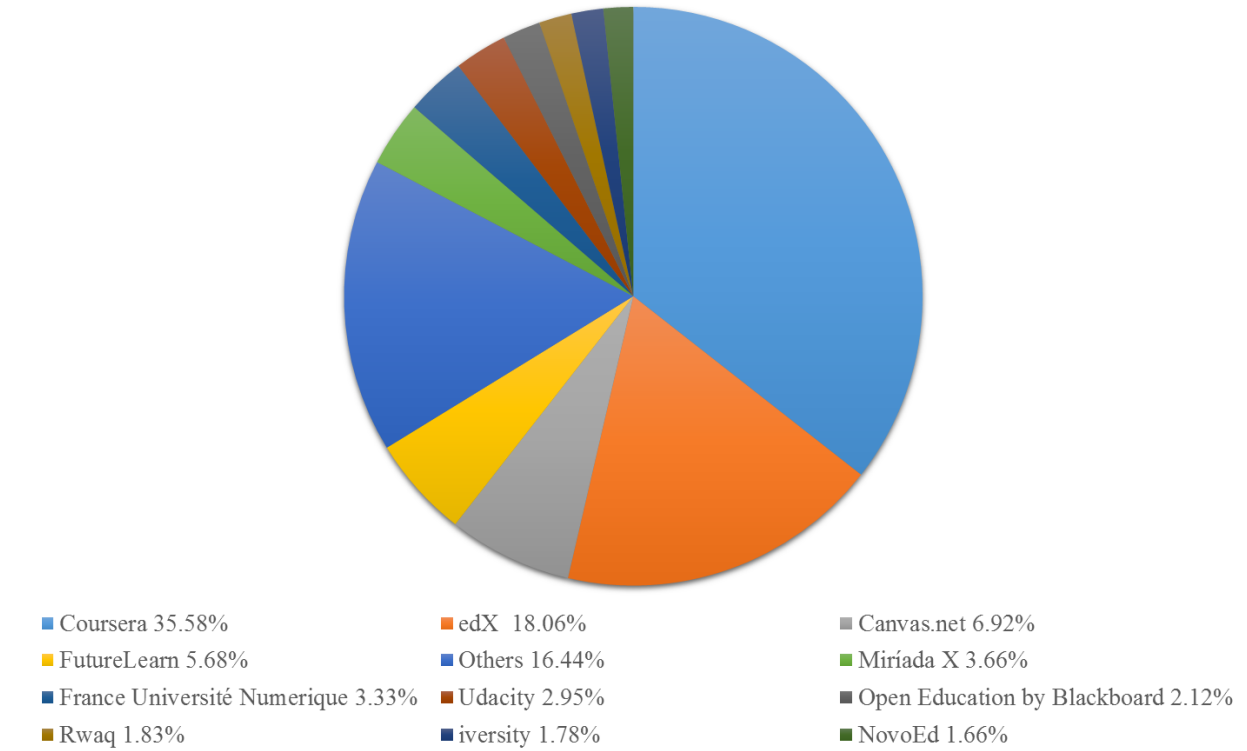


Figure 2.2: Courses Distribution by Providers (Shah, 2015)

At the time of this study, Rwaq is the only platform from Saudi Arabia that has launched a smartphone application. In fact, the home page of Rwaq’s website clearly shows the use of the Rwaq application with smart devices including tablets and smartphones. It is a kind of advertisement for mobile learning that is easier and more enjoyable for participants. It is clear that the platform understands that many learners will be attracted to the courses because of their pre-existing attraction to using technology (Davies, 2017, p.3).

## 2.1.2 Junnah MOOCs platform



Figure 2.3: Junnah Homepage Screenshot, 2017  
Taken from <https://www.junnah.com>

The founders of Rwaq (Fouad Al-Farhan and Sami Al-Hussayen) launched the Junnah platform in December 2014. Junnah is an online Arabic health and sports platform that offers scientific training programmes to help prevent and treat common diseases, such as diabetes, in Arab society. The initiative aims to contribute to raising the level of health awareness in Saudi society and in the Arab community in general in order to reduce the number of people living with diseases.

Its homepage shows the flexibility of using the website through mobile devices and laptops and the logo of the platform, presented in the top right of its homepage, explains the vision of Junnah, which is 'Junnah is a lifestyle'. This vision is explained briefly under its logo in short sentences in two rows to clarify its mission: 'a healthy and sporty platform and social network that helps you in building an enjoyable lifestyle'. The services that Junnah provides are also shown via the images and expressions represented in the homepage.

The platform's programmes are created and developed in collaboration with related health organisations and under the supervision of specialised doctors. In Junnah, participants can interact with certified health trainers on a daily basis.

### 2.1.3 Maharah MOOCs platform

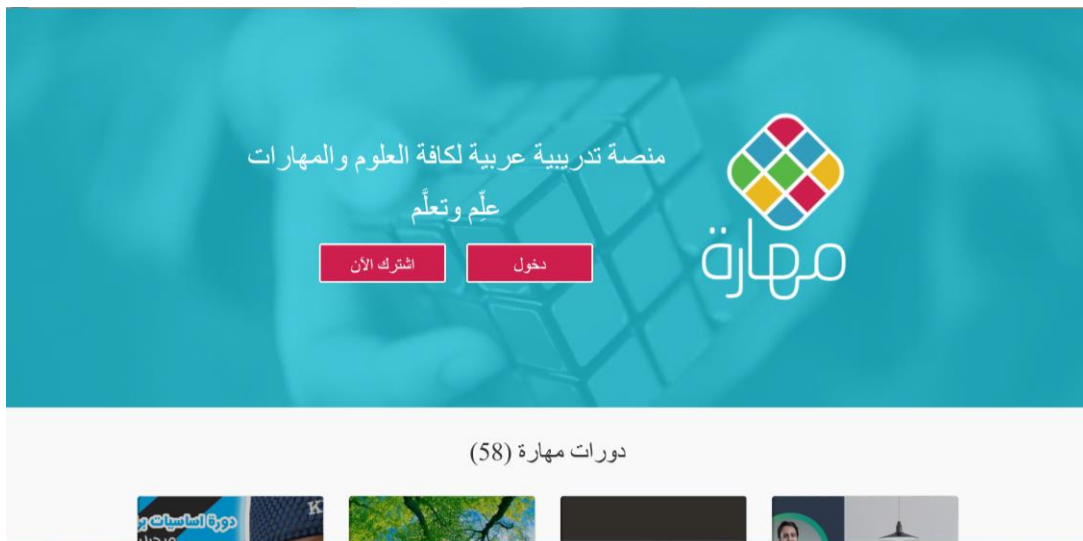


Figure 2.4: Maharah Homepage Screenshot, 2017  
Taken from <https://www.maharah.net>

Maharah is a new initiative from the founders of Rwaq (Fouad Al-Farhan and Sami Al-Hussayen). It was launched at the beginning of 2015 because at that time Rwaq received many requests from users who wanted to offer courses through Rwaq specifically as it had become the largest Arabic online learning platform and received considerable acceptance and interaction. However, because of Rwaq's academic nature, it could not honour these requests because they did not meet the rules of qualification for Rwaq lecturers. As a result, the idea of launching Maharah as an independent platform for courses developed.

The logo of the Maharah platform is represented in the top right of its homepage and has the shape of a Rubik's cube. This aims to appeal by demonstrating that in Maharah anyone can

create an account, design a Rubik's cube (course) on any subject, and introduce it to the audience as a free or fee-based course. It enables users to build their own courses as they like. To the left of the Maharah logo, the mission is written as a short expression in two rows that say, 'Arabic training platform for all disciplines and skills, learn and educate'. Maharah's mission shows that it aims to spread knowledge to people and at the same time encourage people to spread their knowledge by designing their own courses. However, there are many rules and criteria that users must follow to produce a course on Maharah and course are reviewed by administrators before posting.

Rwaq, Maharah, and Junnah are part of a series of projects and electronic initiatives developed to focus on the development of the education and training sector to increase knowledge in the Arab world.

#### 2.1.4 Dorooob MOOCs platform

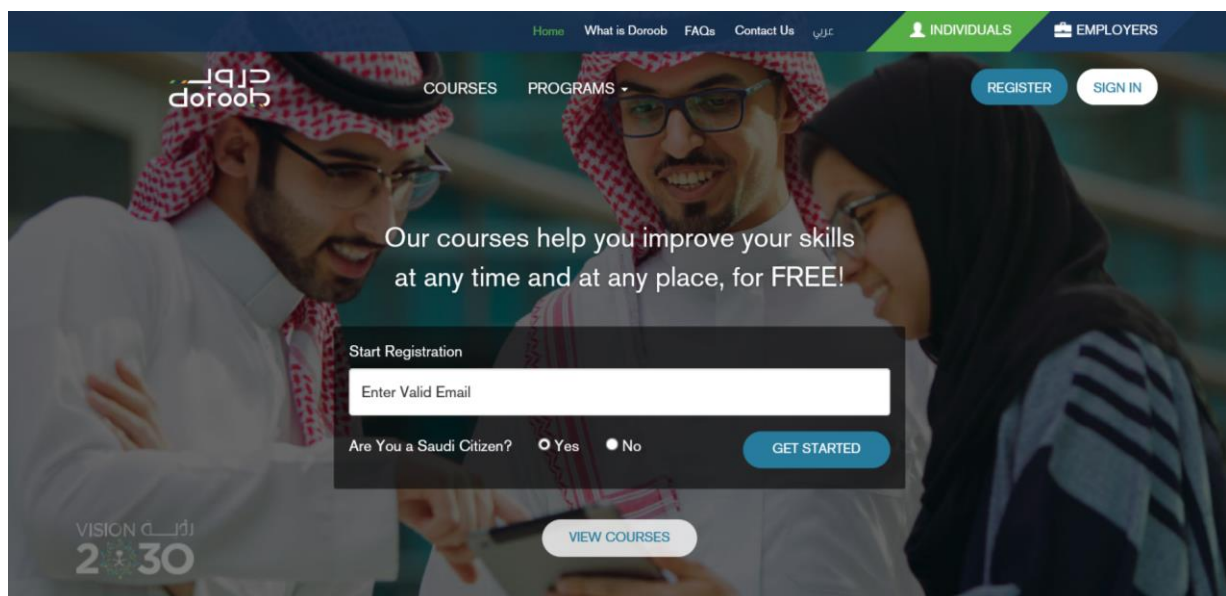


Figure 2.5: Dorooob Homepage Screenshot, 2017  
Taken from <https://www.dorooob.sa>

Doroob is another Saudi initiative that has shown interest in MOOCs, when edX, which is a non-profit online courses platform initiative created by founding partners Harvard and MIT, signed a deal with the Saudi Arabian Ministry of Labour to launch a MOOC portal designed for Saudi Arabia and exclusively for Arab audiences on July 15, 2014, which began in September 2014 (Winkler, 2014; edX press, 2014). Doroob is the only Saudi platform that has two versions in Arabic and English. The homepage shown above represents the English version of the website. Both versions have the same interface and courses. This highlights the importance of both Arabic and English in learning in modern Saudi society. In addition, providing an English version can satisfy Saudi people who study at international schools in Saudi Arabia, and university students whose academic studies are in the English language. The Doroob homepage shown above uses a picture of mixed gender scholars looking at a mobile device; presumably, they are looking at a MOOC. While this picture may portray the modern idea of mixed-gender learning, it looks safe and all are wearing traditional modest dress. These ideas clearly demonstrate that Saudi Arabia is changing and MOOCs are part of these changes and contribute to them.

Doroob was designed to bridge the gap between education outputs and the needs of labour markets in Saudi Arabia, and the first targets of these courses are Saudi women, youth, people with special needs, and citizens in rural communities (Agarwal, 2014a) who suffer from high rates of unemployment (Mishkin, 2014). His Excellency Eng. Adel bin Mohammed Fakeih, the former minister of labour for the Kingdom of Saudi Arabia, said:

This initiative marks a significant turning point for the citizens of Saudi Arabia and the Arab world, by providing accessible, relevant, high-quality education opportunities for our citizens, we will empower our communities and educate citizens to have the skills to succeed professionally. (cited in edX press, 2014)

In addition, Ms. Maha Taibah, a senior official in the nation's labour ministry, said that integrating MOOCs into the technical and vocational schools could help quadruple the capacity

of that school system over the next two years, from 100,000 seats now (Mishkin, 2014). Ms. Taibah stated:

The private sector in Saudi Arabia is growing rapidly and skilled workers are needed now more than ever to meet the rising demands. Women and youth, in particular, are well-positioned to contribute to this need by having access to high-quality vocational training in areas such as IT, healthcare, retail and manufacturing. We expect the initiative to create job opportunities and economic empowerment in Saudi Arabia and throughout the Arab world. (cited in Winkler, 2014, and edX press, 2014)

Doroob is a pioneering national initiative sponsored by the Human Resources Development Fund (HRDF) that aimed to provide integrated online training programmes which offer official accredited certificates recognised by many key employers in Saudi Arabia. These programmes try to meet the needs of job seekers as well as Saudi individuals who are eager to improve their professional skills. Saudi job seekers who hold any of these certificates are a priority for Saudi employers who endorse Doroob certificates (for instance STC, ALSAFI, Dr. Sulaiman Al Habib Medical Group, etc.). The primary focus of Doroob courses is what are regarded as priority employment skills (for example, computer skills, English language skills, interpersonal skills, and specialised skills such as accounting, IT, etc.). In addition, Doroob offers the opportunity of blended learning and on-the-job training (OJT) (GCF, 2015). It is considered to be the shortest path to gain a job as it concentrates on providing training, certificates, and jobs (Doroob, 2014).

One of the strategic partners of Doroob is Edraak (<https://www.edraak.org>), which is a MOOC platform launched in November 2013 through an initiative of the Queen Rania Foundation (QRF), Jordan. Edraak is the first non-profit Arabic platform that provides MOOCs in partnership with edX platform (Agarwal, 2014b). Its aim is to bring equal opportunities for learning to the Arab world (Agarwal, 2014b) by providing Arab learners with access to courses that are translated into Arabic from the top prestigious universities, such as Harvard University, as well as creating new high-quality Arabic online courses that are introduced by Arabic

professional experts. Recently, Edraak said it intends to offer courses in English about Arabic culture and history by Arab experts and university professors in order to serve the global audiences who are interested in the region’s development (Edraak, 2014).

### 2.1.5 Zadi MOOCs platform



Figure 2.6: Zadi Homepage Screenshot, 2018  
Taken from <https://zadi.net/>

Zadi is an open platform for Islamic law courses which started in June 2015. It is a platform under the supervision of Sheikh Muhammad Al-Munajjid. Zadi’s homepage, shown above, consists of four main parts. The top right part represents the platform’s logo and the vision is mentioned in the top of the logo: ‘Zadi for open learning in Islamic law’. The main links of ‘about Zadi’, ‘how to learn in Zadi’, and ‘say your suggestion’ are located at the top left of the homepage. The laptop in the home page displays promotional videos for all the courses, which provides users with a general overview about all current courses in one video that repeats automatically while the homepage is open. Zadi’s homepage also tries to encourage people to learn by adding extracts from Imam Al-Shafii's poetry, which explains the importance of learning and its value for peoples' lives, to the left of the laptop image.

Zadi aims to distribute Islamic knowledge in an interactive educational format by using modern technologies to facilitate access to reliable Islamic legal knowledge for people of any age and knowledge level at anytime and anywhere at no cost. In addition, this platform aims to transition from merely receiving instruction to interacting as a learning method. Some courses in the Zadi platform include exams and tasks, but this is an option designed for learners who want to acquire certificates of accomplishment.

### **2.1.6 Conclusion**

The main two platforms that have been employed widely in Saudi Arabia are Doroob and Rwaq. This might be because they were produced and established by the Saudi sector or Saudi initiators, and they include courses in different fields that are more likely to satisfy Saudi users' needs.

However, despite the existence of MOOC platforms in Saudi Arabia, there are some evident differences between Doroob and Rwaq that create a distinction between the two platforms. For example, Doroob offers many courses at different levels, such as the courses for an assistant accountant and an executive secretary. These courses are available at different levels from beginner to advanced and each user can choose the appropriate level for him/her based on the determined goals, as explained in the overview page for each course.

In addition, some courses in Doroob do not have lecturers and the videos use recorded voices that explain the information. Most of the courses in Doroob are self-paced, and users can access them at any time. On the other hand, all courses in the Rwaq platform have lecturers and users can see their qualifications and CVs before enrolling in any course. In addition, although Rwaq does not have self-paced courses, all users can easily view and learn from any complete courses at any time at their own pace because all the content is archived. Moreover, at the time of this



study, acquiring a certificate in Doroob requires passing a traditional face-to-face exam that learners usually receive information about by email after they have completed the electronic portion of the course.

However, the implications and the influences of these platforms are unclear in Saudi Arabia, the context of this study. Therefore, it is necessary to conduct research in this area to examine Saudi people's perceptions regarding their participation in MOOCs, especially because these platforms were designed for Saudi Arabia and thus probably have different cultural implications for many other countries. Looking at Saudi culture over a century ago, I realised that several cultural changes have occurred due to improvements in Saudi education. Learning affects all our aspects of life, including our culture, as Samovar et al. (2009, p.338) have confirmed:

There is a strong link between culture and learning that is reflected in how people prefer to learn and how they tend to process information.

People's preferred methods and habits of learning changes over time and their needs from learning usually change according to their positions and situations. Because learning is always considered as the basic means of development and renaissance in life in all its aspects, MOOCs are potentially a key area for cultural change in Saudi Arabia.

## **2.2 The Importance of MOOCs in Saudi Arabia**

The Saudi Arabian government has significantly invested in the use of IT for teaching and learning in universities and is continually financing projects to develop adequate IT infrastructure, as well as to develop subject content for Higher Education students (Alebaikan and Troudi, 2010). This transition from conventional, campus-centred university studies to learning via online courses has in many ways been driven by the growing demand for the

provision of university education that universities are struggling to fulfil, as well as a desire for Saudi Arabia to maintain pace with the development of technological understanding and expertise evident in other countries (Alebaikan and Troudi, 2010; Al-Khalifa, 2010). As part of this strategy, a National Centre for e-Learning and Distance Learning (NeLC) was established in 2006 and a small number of universities have begun to offer online courses. For instance, KSU introduced a Deanship of e-Learning and Distance Learning in 2008, and all courses at the university became available through an LMS (KSU, 2010). Although the Deanship of e-Learning and Distance Learning at KSU intends to establish a Distance Learning model internationally (KSU, 2010), there is currently no indication about any distance courses available from KSU. In addition, the Deanship of Skills Development (DSD) (where I have been working since 2009 as a teaching assistant) was established in 2008 (KSU, 2013a), and in 2013, it organised approximately 531 internal training sessions and five external training sessions benefiting about 6,004 men and 7,459 women (DSD, 2013b). Although DSD targets anyone inside and outside KSU who wants training and qualification, no one outside KSU can join any of the training programmes that are provided by DSD. This might be a result of the huge number of participants inside KSU and therefore DSD cannot handle any more participants. According to the Webometrics Ranking of World Universities, King Saud University, Saudi Arabia, is ranked first in the Arab world (RWOU, 2018). This feature seems to place responsibility onto the leaders of the university to follow the lead by top universities, such as Harvard, to make some of its courses freely available online.

Indeed, the Saudi Arabian government encourages citizens to take up Higher Education and therefore it pays monthly stipends to students at public universities and provides scholarships for those who wish to enrol in private universities or are interested in studying abroad (Alamri, 2011). Hence, Higher Education has undergone significant growth over the past decade and this has resulted in an expansion of the number of institutions in Saudi Arabia (23 government

universities, 33 private universities and colleges, 12 technical colleges, 37 colleges and institutes for health, and 98 primary teacher's colleges) (Alamri, 2011). Nevertheless, Saudi Arabia is considered one of the countries with the highest ratio of students studying abroad. According to a Saudi Higher Education Statistics report, 21,748 students graduated in the 2015–2016 academic year from international universities outside Saudi Arabia (MOE, 2016); however, the report shows that the number of male students (15,378) exceeds the number of female students (6,370). This may be because of the customary female responsibilities for the family in Saudi Arabia sometimes create an obstacle to studying abroad for females.

On the other hand, it is well known that the education system in Saudi Arabia is gender segregated, so males and females have separate campuses, although men can teach female students (Macleod et al., 2015) through closed circuit television (Al-Sarrani, 2010). Furthermore, segregation means that disciplines in some male universities do not have counterparts in female campuses, thus unbalancing educational justice (Alamri, 2011). For example, the Department of Architecture only exists on the male campus at KSU. The segregation in the educational system in Saudi Arabia has impacted registration for MOOCs since their introduction. Al-Farhan, one of Rwaq's initiators, claims that many fields related to technology are missing from the Saudi education system despite the education budget in Saudi Arabia being around \$50 billion annually (Al-Omran, 2013). This budget increases significantly every year as it is relevant to the price of oil, which Saudi Arabia relies on economically (Alamri, 2011). Rwaq has addressed this point by offering courses that are not available in each university, especially for females, such as e-commerce and visual arts (Macleod et al., 2015). MOOCs could therefore help to rebalance gender equity in this way by providing such courses to both sexes.

It has been recognised that MOOCs are one option for enabling citizens in Saudi Arabia to access education. Macleod et al. (2015) claim that the current Saudi education system should

be changed because it is ineffective. Al-Farhan supports this idea by arguing that MOOCs promise two main features: (i) filling the gap resulting from the need for the skills that are important for entrepreneurship, such as digital marketing, by providing the access to high-quality education, especially in Saudi Arabia, with open-minded professors and experts with practical experience; and (ii) setting a new dimension for high-quality skill-training programmes, especially because the current programmes have been criticised for their lack of quality (Curley, 2013). He means that although the quality of these training programmes is low, they are very popular for those attendees who are focused on gaining certificates (Curley, 2013) regardless of the skills that are actually acquired. Al-Farhan hopes that MOOCs will reform current education systems in the area and set high standards for skill training programmes (Curley, 2013).

In addition, Higher Education in Saudi Arabia faces a tremendous need to make a change because of the inconsistency in curriculums in some fields, the large numbers of students graduating every year from different fields, and political unrest in some Middle Eastern countries (Alamri, 2011). This situation has increased the stress on Higher Education to provide free open learning to all Arabs around the world in order to address the problems that may arise as a result of depriving some people in the Middle East from education and the need for graduate students to be up-to-date in their fields by providing training programmes that prepare them for the labour market.

Yet, although MOOCs can provide educational opportunities to an extensive group of people and might be suitable alternatives to conventional university study in some nations, there are concerns regarding their universal relevance (for example, Lane and Kinser, 2012; Liyanagunawardena et al., 2013). In addition, Mr. Al-Farhan states that as Rwaq is a social entrepreneurship project providing free MOOCs from donated experts and professors, it should make a social impact (Al-Omran, 2013); therefore, there are implications for Saudi culture.

According to Lane and Kinser (2012), MOOCs lead to thousands of learners worldwide undertaking an identical course, accessing identical content and being taught by the same person. The authors note that this is unlikely to foster diverse educational experiences or to lead to a breadth of understanding of different cultures worldwide because of the concern that the teaching programme will be excessively narrow and lacking in diversity. Although the students themselves can bring their local knowledge to the courses (for example, the Sheffield *play* MOOC requires students to share information about local games (The University of Sheffield, 2014)), Lane and Kinser (2012) argue that the MOOC's approach does not ensure locally relevant knowledge is provided to a student; this could harm an individual's employment prospects within the country they are living and result in a failure to improve the country's overall education system. Additionally, Boga and McGreal (2014) claim that the content taught in MOOCs often originates from urban areas within developed nations. Consequently, its suitability within certain cultures and its ability to fulfil the needs of the students living there might be considered dubious (Boga and McGreal, 2014). However, many countries, including Saudi Arabia, encourage their citizens to study abroad and be exposed to different cultures in order to benefit from various experiences in developing government systems such as the educational system.

MOOCs undertaken in English on a global basis, as opposed to the local language in Saudi Arabia, might also present challenges. Furthermore, Liyanagunawardena et al. (2013) argue that some individuals might not understand idiomatic expressions that are posted on forums and that there might be cross-cultural confusion, for instance in the use of humour. Although there are Saudi individuals who have joined MOOCs on foreign platforms such as Coursera and edX, Elyas and Picard (2010) argue that Western cultures lack harmony with Islamic society; moreover, Boga and McGreal (2014) argue that the way in which individuals learn might differ between societies and as a consequence individuals in Saudi Arabia may prefer

and be more comfortable with particular learning designs and strategies that are incompatible with those in foreign MOOCs. Additionally, as I have explained in this section, the Saudi government provides citizens with a great opportunity for free university education; thus, Saudis' motivations for participating in MOOCs and the impacts of using MOOCs on their lives may differ compared to individuals from other countries. Consequently, so as to ensure that the advantages of MOOCs are optimally realised in Saudi Arabia, it is imperative to research the participants' perceptions about MOOCs and their expectations and needs. In addition, it is important to discover and prevent any anticipated problems with regards to using MOOCs.

## **CHAPTER 3: Literature Review**

This chapter provides an overview of the history of MOOCs and their emergence in both foreign and Arabic platforms. Furthermore, it presents a literature review of different types of MOOCs, their learning theories, main characteristics, and the participants in these courses. Finally, the chapter discusses the main characteristics related to the design and pedagogical foundations of MOOCs according to the literature.

### **3.1 History of MOOCs**

A discussion about the history of MOOCs must acknowledge the history of open resources and online distance learning, while also recognising the emergence of different MOOC models. In fact, when scholars or researchers discuss the history of MOOCs, they usually differentiate between two models that emerged in 2008 and 2011. Moe (2015) explores the brief history of MOOCs by dividing them into two main typologies: the first MOOCs that emerged in 2008 and the later MOOCs that were catalysed around MOOCs as a buzz phenomenon and were established in autumn 2011 (More details about the main two typologies of MOOCs are provided in Section 3.2).

However, Sandeen (2013, p.6) asserts that the popularity of MOOCs started in the summer of 2012 with the establishment of three major MOOC platforms, Udacity, edX and Coursera, which attracted a large number of people. As highlighted in Section 1.3, Petkovska et al. (2014, p.108) believe that MOOCs first emerged from the Open Educational Resources (OER) movement, which offers free accessibility to course documents that are useful for teaching and learning purposes. The term 'OER' was coined during the UNESCO forum in 2002 (Petkovska et al., 2014, p.108), and in the spring of 2001, the Massachusetts Institute of Technology (MIT) began the initiative by announcing the OpenCourseWare (OCW) project, which led to

unprecedented sharing of academic resources over the Internet (Johnstone, 2005, p.15). Ten years after coining the term OER, the Paris Declaration for OER of UNESCO was signed (Petkovska et al., 2014, p.108; UNESCO, 2012). The declaration recommends fostering awareness and the promotion and use of OER, development of strategies and policies on OER, production and sharing of high-quality educational resources, and encouraging the production and development of OER in different languages and cultural contexts to ensure their suitability and accessibility (UNESCO, 2012). Tuomi (2013) claims that although OER does not necessarily have to be digital and accessible via the Internet, it has expanded due to the explosive development of the Internet and the declining costs of Information and Communications Technology (ICT). OER over the Internet facilitates sharing resources that have many benefits for the world, from academic collaboration and helping people in local communities to economic development by showing that course materials from the university could encourage people around the world to apply for admission when they come to admire the quality and academic culture of a certain university (Johnstone, 2005, p.15). In response to the recommendations of the Paris Declaration, many educational websites have been produced and developed.

One of the most common educational organisations is the Khan Academy (<https://www.khanacademy.org/>), which was launched in 2006 by educator Salman Khan. The Khan Academy aims to provide free education in different fields for anyone (Thompson, 2011a) by offering videos, practice exercises and a personalised learning dashboard that enables learners to study from anywhere and at their own pace. Thompson (2011a) argues that although some people have criticised Khan's videos and software as they do not encourage creativity, the website is undeniably popular; more than two million learners watch Khan's videos every month, and learners answer about 15 questions per second (Thompson, 2011a). In addition, Tuomi (2013) evidences the success of the Khan Academy by referencing statistics



showing that more than 3,400 courses offered by this academy are used by some 3.5 million learners each month.

According to Sandeen (2013, p.6), besides the Khan Academy, there are other open online learning providers that also emerged during this time, such as TED and iTunesU. These learning providers offer complete, high-quality courses that can be considered as supplementary to some formal coursework, such as tutorials that help individuals to obtain general knowledge or enrichment without seeking a degree or academic credit (Sandeen, 2013, p.6). Arnold (2012) states that the term OER is extended presently to include ‘Open Educational Practices’ that offer large-scale informal learning such as the Massive Open Online Course (MOOC). From this discussion, it could be said that the emergence of MOOCs was due to the rapid expansion of Open Educational Resources (OER), which received widespread attention and popularity from a massive number of users. In the following sections, I explain the events associated with each period since the appearance of the first MOOC in 2008. The review includes the most prominent international platforms in addition to the Arabic platforms.

### **3.1.1 MOOCs of 2008**

In 2008, George Siemens proposed a course titled *Connectivism and Connective Knowledge* (CCK08) as a new learning theory of connectivism for the digital age (Mackness et al., 2010, p.266). The course was convened and led by George Siemens and Stephen Downes through the University of Manitoba, Canada, with an enrolment of more than 2,000 participants from around the world and about 24 of these registered for credit (Mackness et al., 2010, p.266). Although this means that this course was formally provided through the University of Manitoba, it was also informally available for free open enrolment to all (Fini, 2009). Here, the meaning of formal and informal seems to be in conflict; thus, Fini (2009) clarifies that formal

refers to learners who should complete and successfully pass a course in order to earn credit from the University of Manitoba, whereas informal refers to participants who attend a course without receiving academic certification from the university. Leontyev and Baranov (2013, p.1535) describe how interaction in this course was available among the learners themselves and with the instructors through an online conference environment. The content of this course was available through RSS feeds, and learners could participate by using collaboration tools such as blog posts and online discussions in the Moodle e-learning system and by using the Second Life social platform for meetings (Petkovska et al., 2014, p.109). Furthermore, Leontyev and Baranov (2013, p.1535) argue that this course presented a new learning theory, connectivism, that built on the idea that knowledge can be transmitted by a network of connections and learners should be able to establish and use these networks. The authors claim that connectivism emerged as a result of the explosive growth of information with the rapid development of online networks (social networks and blogs, etc.), which were not considered in traditional learning theories such as behaviourism, cognitivism and constructivism (2013, p.1535) (Further details about the applied learning theories of MOOCs are discussed in Section 3.3).

However, Downes (2008) says that this course was not the first course to accept massive enrolment, and it was not the first online open course offered for credit; for example, in 2007, David Wiley introduced a course in the form of a wiki titled *Introduction to Open Education*. Thus, Downes (2008) points out that the unique features that make CCK08 different are the combination of the following three elements: its massive size, its openness and its for-credit status. Educational technology researcher Dave Cormier (2008) had a Skype conversation with George Siemens about the CCK08 course and discussed what exactly Stephen Downes and George Siemens would call 'this thing' (Downes, 2008). This resulted in two researchers in educational technology, Dave Cormier (from Prince Edward Island University) and Bryan

Alexander (from the National Institute), labelling the experiment as a Massive Open Online Course with the acronym MOOC (Moe, 2015, p.6).

Fini (2009) conducted a study that focused on the technological aspects of the CCK08 course in order to understand the attitudes of lifelong learners towards the technologies of the learning network. After he collected 83 online surveys from CCK08 participants from 1 December 2008 to 5 January 2009, he found that the CCK08 course attracted adult and informal learners, especially those who were not concerned about completing the course. In addition, he found there were certain elements that affected the participants' choices of tools such as ICT skills, time constraints and language barriers (Fini, 2009).

Rodriguez (2012) describes three open online courses that came after the success of CCK08. The first course was *Personal Learning Environments, Networks, and Knowledge* (PLENK2010) in 2010 sponsored by the Technology Enhanced Knowledge Research Institute (TEKRI) at Athabasca University, Canada, which aimed to clarify the concepts of networks and personal learning environments (Rodriguez, 2012). The second course was MobiMOOC in April 2011, organised by Ingatia de Waard from the Institute of Tropical Medicine (ITM) in Antwerp, Belgium (Rodriguez, 2012). The third open online course EduMOOC was a course entitled *Online Learning Today... and Tomorrow* which ran from June to August 2011, covered by Professor Ray Schroeder at the University of Illinois as a not-for-credit MOOC aiming to examine the state of online learning and to establish the future of e-learning (Rodriguez, 2012). All of these courses were similar to CCK08 in many respects, such as the openness, the massive number of registered learners and the use of online interactive environments for course delivery. Moe (2015, p.6–7) argues that although not all these courses were unique to connectivism and they might not even have been built based on connectivism theory, they all contained elements in common with CCK08 in terms of pedagogy, assessment and

affiliation. Some researchers refer to these courses that rely on networks for learning as cMOOCs (Marsaglia et al., 2014b, p.4; Petkovska et al., 2014, p.109; Rodriguez, 2012).

### **3.1.2 MOOCs of 2011**

In the autumn of 2011, the later MOOCs arose with the launch of the course *Introduction to Artificial Intelligence* (CS 271), which was developed by Professor Sebastian Thrun at Stanford University and Peter Norvig, the research director at Google (Moe, 2015, p.7). CS 271 was not identified as a MOOC by the professors, but it was described as ‘a bold experiment in distributed education’ (Rodriguez, 2012). However, this course was considered to be a tipping point for the MOOC movement as more than 160,000 learners registered and about 23,000 from more than 190 different countries (Barnes, 2013, p.163) completed all coursework (Hyman, 2012, p.20), with only 30 students attending face-to-face lectures (Watters, 2012, cited in Moe, 2015, p.8). It was a for-credit course at Stanford University, and it was also delivered through Stanford’s website as a no-credit course by utilising a learning management system to offer short videos, quizzes, exams and discussion boards for learners (Moe, 2015, p.7). The CS 271 course as a MOOC offered similar content, tasks and exams as the same face-to-face course and provided learners with feedback regarding their progress, with a statement of accomplishment for learners who completed this course (Rodriguez, 2012). Although the first MOOC was a cMOOC model, Petkovska et al. (2014, p.109) confirm the popularity gained by MOOCs in 2011 with the appearance of the first xMOOC, which was titled *Introduction to Artificial Intelligence*. Norvig commented on this course by saying:

There had been decades of various types of online classes... It is just that now all the technology is coming together to allow online classrooms of that size on a global basis. (Hyman, 2012, p.20)

Rodriguez (2012) states that besides the *Introduction to Artificial Intelligence* course, Stanford University offered two MOOCs during 2011. These MOOCs were courses in the computer science field: *Introduction to Databases* (CS 145), taught by Professor Jennifer Widom, and *Machine Learning* (CS 229), led by Professor Andrew Ng (Moe, 2015, p.8). The three MOOCs offered by Stanford University were successful in attracting different participants from around the world (Barnes, 2013, p.163). As a consequence, in 2012 Stanford University announced it would offer 13 MOOCs in different fields, including cryptography, natural language processing, anatomy and game theory (Rodriguez, 2012).

### **3.1.3 MOOCs of 2012**

It is clear that the success of the courses presented by faculty members at Stanford University has led to a renaissance of MOOCs in many universities and the establishment of platforms for these types of courses. Therefore, in January 2012, Professor Sebastian Thrun, who taught CS 271, announced he was leaving Stanford University to launch Udacity (Watters, 2012), which is a for-profit MOOC provider independent of universities and colleges (Moe, 2015, p.8). Subsequently, the MIT established a MOOC titled *Circuits and Electronics* as a part of the MITx project that would then offer many courses with some sort of credential for learners who completed them (Rodriguez, 2012). The success of these courses led Stanford University to devote research to developing MOOC platforms and offer some courses for MOOC organisers (Moe, 2015, p.8). As a result, in April 2012, Professor Andrew Ng and Professor Daphne Koller of Stanford University officially launched their MOOCs provider, Coursera, as well as announcing that they had raised about \$16 million in funding (Watters, 2012). Hyman (2012, p.21) highlights the rapid success of Coursera as approximately 680,000 users has been accumulated just three months following the launch. However, concerns were raised about how to make the MOOC pay for itself, and thus, he quoted Professor Ng as follows: “Even if

the content is to be free, which is something we care a lot about... we believe it's OK to charge a modest amount for certification — perhaps \$30 or \$50. Given the scale of numbers we have, we think we could come up with a sustainable business model if we decide to go that route” (Hyman, 2012, p.21).

In May 2012, MIT and Harvard created and launched the non-profit MOOC platform edX, contributing \$30 million each (Watters, 2012). Hyman (2012, p.20) states that MOOC platforms, such as Udacity, Coursera and edX, were aiming to provide the best education for the whole world available freely to anyone who was interested without requiring any specific qualifications other than having an Internet connection. These initiatives of producing MOOCs resulted in many US universities delivering MOOCs by the end of 2012, either by using their own websites or by partnering with MOOC platforms (Barnes, 2013, p.164). For example, Professor Curtis Bonk of Indiana University offered a MOOC titled *Instructional Ideas and Technology Tools for Online Success* via the Blackboard Course Sites platform (Watters, 2012).

It is obvious that the number of MOOC platforms and the MOOCs affiliated with universities increased rapidly in 2012, which prompted the president of edX. Anant Agarwal to say, ‘I like to call this the year of disruption, and the year is not over yet’ (Chahine, 2012), and Pappano’s article in the *New York Times* pointed to this year as ‘the Year of the MOOC’ (Watters, 2012).

In June of 2012, Udacity announced it would be in partnership with Pearson to offer onsite testing for its courses (Watters, 2012). Udacity, edX and Coursera thus gave certificates of attendance or completion and also required proctored exams to be given in partnership with Pearson VUE assessment centres (Karnouskos and Holmlund, 2014, p.13–14). Moreover, an additional 12 universities joined Coursera in July, which increased the number of universities in Coursera to 16, including top universities in the United Kingdom, the United States, Canada and Switzerland, such as the University of Washington, the University of Toronto, Johns

Hopkins University (School of Public Health), Lausanne (Switzerland) and the University of Edinburgh. This encouraged another 17 universities to join Coursera in September, which allowed Coursera to raise additional funding of about \$3.7 million (Watters, 2012). According to Barnes (2013, p.164), Coursera is considered to be the largest MOOC platform with about 62 partners from 17 countries, while edX has about 21 academic partners in five countries. The participating institutions of edX include the University of California, Berkeley, which joined edX in August 2012, and the University of Texas, United States, which joined in October, as well as many other universities, such as Wellesley and Georgetown, that joined edX in December (Watters, 2012). Australian universities have also followed the international trend in using MOOCs; for example, in September 2012 the University of Melbourne announced that it had become a partner with Coursera (Barnes, 2013, p.164).

In November 2012, many Massachusetts community colleges become partners with edX in order to offer MIT courses in blended versions with funding from the Gates Foundation (Watters, 2012). The growth of these platforms encouraged universities in other countries to follow similar initiatives (Barnes, 2013, p.164). For example, Cook (2012) states that many UK universities - led by the Open University - joined forces in December 2012 to announce FutureLearn as the first UK platform to offer MOOCs which had been introduced in the past by US platforms such as Coursera, edX and Udacity. Shaw (2012) argues that FutureLearn has been important in meeting the growing demands of learners globally.

In fact, the universities in Saudi Arabia were not been far behind. For example, in early 2012 the E-Learning Deanship at King Khalid University (KKU) officially announced that it would offer some courses as MOOCs and that they would be available free for everyone (KKU, 2012). Thus, I contacted Abdullah Rozah, Design and Development Manager at the Deanship of E-Learning at KKU and introduced myself as a researcher of MOOCs in particular. Abdullah Rozah stated that MOOCs began at KKU at the end of 2011 and that in March 2016, KKU

offered a MOOC titled *Computer Skills* which attracted about 1,400 participants. The initiative of MOOCs at KKU was established to provide the highest standards of learning for those who might seek to learn and obtain knowledge from the best faculty members at the university by using Moodle as the platform for delivering courses (KKU, 2012). The schedule of each MOOC was divided into weeks and each week included content (in the form of videos, reading, etc.), activities (discussion, essays, etc.) and assessments (exams, assignments, etc.) (KKU, 2012).

One of the MOOCs at KKU is titled *Breast Cancer*, which aims to increase public awareness about how to identify breast cancer during the early stages (KKU, 2012). In 2014, the Deanship of E-Learning at KKU reported on its successful experience in offering MOOCs that resulted in more than 410 participants from several Arab countries, including the Gulf countries, with high satisfaction among the learners (KKU, 2014). In addition, the main theme of the 5th International Exhibition & Conference on Higher Education was innovations in Higher Education in the digital age, and the rise of MOOCs was one of the many topics discussed (MOE, 2014, p.6). The report of this conference highlighted Massive Open Online Courses (MOOCs), which were considered to be a great challenge to traditional universities; thus, the report suggested that it was important for universities that intend to exist in the future to embrace the change (MOE, 2014, p.7).

#### **3.1.4 MOOCs of 2013 and Later**

A new MOOC platform, OpenupEd, was launched in April 2013 by the European Association of Distance Teaching Universities (EADTU), with about 11 partners, including universities in Russia and Turkey (Barnes, 2013, p.164).



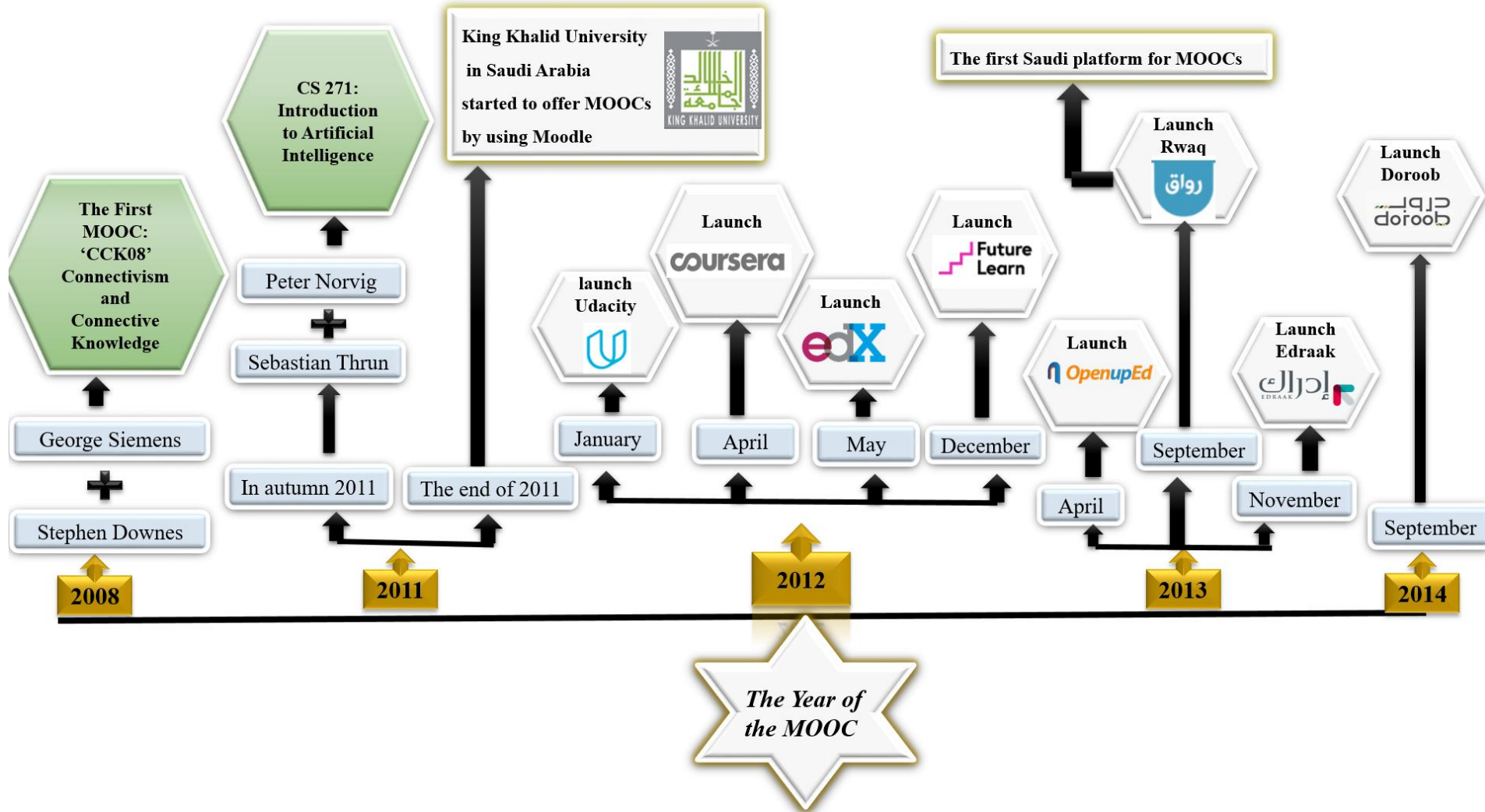
At the same time, many Saudi platforms began to be established. For example, Rwaq was launched in September 2013 (Al-Omran, 2013) as the first Saudi platform that offered MOOCs. In addition, in September 2014, Dorooob was launched (edX press, 2014) to provide MOOCs to develop workforce capabilities in Saudi Arabia (Zafar et al., 2015, p.7). Edraak also began in November 2013 as an Arabic MOOCs platform (Agarwal, 2014b), and it was established as an initiative by the Queen Rania Foundation (QRF) through a partnership with edX. The Queen Rania Foundation aims to contribute to the development of the Arab world to ensure it remains at the forefront in the field of education, a field seen as the foundation for the development and prosperity of the region's population.

Arabic platforms are still growing very quickly, especially with the rapid increase in the number of the participants. The infographic in Figure 3.1 has been designed in order to visually represent the history of MOOCs.

However, to conclude this section, I would like to emphasise the importance of reviewing the history of MOOCs and showing the main motivation behind the creation of these platforms. First, this review has provided details about both international and Arabic MOOCs, areas which have, to my knowledge, been under-researched. This review is thus very important in demonstrating the current status of Arabic platforms, particularly in this study's context of Saudi Arabia. In addition, understanding the length of time between the first appearance of MOOCs internationally and their emergence locally in Saudi Arabia provides a clear indication of the importance of these courses for Saudi people, which also helps in understanding the common objectives that stimulated the emergence of MOOCs both in Saudi Arabia and internationally. I would like to emphasise that merging the history of international and Saudi MOOCs required me to contact some Saudi platforms and universities in order to acquire additional information.

Another reason for the importance of this section is that understanding the main motivations of creating MOOCs provides information about the learning theories on which they were based, whether they are mentioned explicitly in the literature or not. For example, it is clear from reviewing Saudi MOOCs, such as KKU courses and courses from the Rwaq and Doroob platforms, that these courses were designed to provide high-quality content from experts. From this, it can be deduced that these MOOCs focus on providing learning in the instructivist approach rather than paying more attention to or investing in the values of the learning community. Further details about the learning theories of MOOCs are discussed in the following sections and in Chapter Five.

Figure 3.1: A Brief History of MOOCs



### 3.2 Types of MOOC

The two prominent forms of MOOCs that have been recognised in the literature are cMOOCs and xMOOCs. Kennedy (2014, p.6) argues that these two different MOOC models attract different audiences and utilise different learning approaches and teaching methods. However, Petkovska et al. (2014, p.109) believe that the two types of MOOC are simply different and there is no distinction in terms of effectiveness.

MOOCs began with a connectivist model targeting lifelong learning audiences; following this, the concept was applied to massive online postsecondary education by using the xMOOC model in which the course design was automated but retained the characteristics of a traditional teacher-directed course (Kennedy, 2014, p.8). In fact, Siemens (2012) notes that MOOCs really reside in two types of platform: the cMOOCs that he had been involved with since 2008 with many people, such as Stephen Downes and Dave Cormier, and the financed MOOCs - called xMOOCs - that were offered by Coursera and edX.

The terms 'cMOOCs' and 'xMOOCs' were coined by Stephen Downes to distinguish between the MOOCs based on connectivist models and the other MOOCs similar in design to the *Introduction to Artificial Intelligence* course offered in 2011 (Stevens, 2013). Schulmeister (2014) clarifies the meaning of the letters in the two different MOOC formats. In cMOOC, the 'c' stands for 'connectivism', whereas the 'x' in xMOOC comes from HarvardX and MITx which provided instructional mass courses (Schulmeister, 2014). Thus, cMOOCs were designed based on a connectivism learning theory that emphasises connected and collaborative approaches to learning that are not curriculum-driven, whereas xMOOCs were content-based MOOCs that were usually content-driven and highly structured (Yuan and Powell, 2013, p.7; Ross et al., 2014, p.59). More differences between the two types are highlighted in the next section.

### 3.2.1 Differences between cMOOC and xMOOC

Kennedy (2014, p.8) lists some differences between the two models of MOOCs, including the extent of participant autonomy versus course structure, the role of assessment, the purpose of the platform (cMOOCs are distributed while xMOOCs are centralised) and the pedagogical approach (cMOOCs are based on connectivism, whereas xMOOCs are based on cognitive behaviourism). More explanation about learning theories of MOOCs are located in Section 3.3. Based on these factors, the following paragraphs discuss the differences between the two models of MOOCs according to the literature.

Regarding participant autonomy, Siemens (2012) argues that their cMOOC model uses social networked learning as its platform with an emphasis on autonomy, creation and creativity. Errey and McPherson (2015, p.62) assert that cMOOCs take advantage of Web 2.0, which gives participants the opportunity to pull content for enriching learning experiences without the need for central lecturer-created content. Rodriguez (2012) mentions additional principles of cMOOCs, which are diversity, interactivity and openness, besides the autonomy that enables participants to perform activities of aggregation, repurposing, remixing and feeding the learning and resources forward. These four key cMOOC activities are explained by Yeager et al. (2013, p.134) as follows:

Aggregation (sometimes referred to as curation, accomplished through an initial list of resources on the MOOC website and then added to through a daily newsletter sent to all participants); remixing (where the connections are made and documented through blogging, social bookmarking, or tweeting); repurposing (often referred to as constructivism, in which learners then create their own internal connections); and feeding forward (that is, sharing new connections with others).

However, the explanation by Yeager et al. (2013, p.134) regarding the idea that 'aggregation' can be referred to as 'curation' could be challenged because curation is essentially a manual process in which an individual sorts and categorises information, whereas aggregation is an automatic process in which keywords are used by database technologies in the collection of

information that is apparently connected and similar in content (Souza, 2012). Therefore, these two activities are not the same in the literature, curation being an individual human activity and aggregation being an Internet-based activity performed by computer technology (for example, Hernández-Rizzardini et al., 2015; Yadav et al., 2016). Thus, it can be deduced that although content aggregation and curation appear to be similar, there are differences between them. In an environment of connectivism, both aggregation and curation can be used to provide information. Participants can aggregate information and resources from websites, blogs, and social media. In addition, participants can pick specific content manually and share it with others when they believe it is valuable and helpful for specific individuals' needs and interests. Kop and Hill (2008, p.2) state that "in connectivism, the starting point for learning occurs when knowledge is actuated through the process of a learner connecting to and feeding information into a learning community". In addition, "connectivism stresses that two important skills that contribute to learning are the ability to seek out current information, and the ability to filter secondary and extraneous information" (Kop and Hill, 2008, p.2). From these cMOOC principles, learners can choose the courses that they wish to learn, join them and study at their own pace without any restrictions. In addition, learners in cMOOCs can use different kinds of tools that allow them to interact and cooperate with other participants to share knowledge.

On the other hand, learners in xMOOCs are less open to autonomy in terms of aggregating and filtering resources because the xMOOC model is more structured (Kennedy, 2014, p.8). xMOOCs offer self-study courses with very few opportunities for interaction (Kalz and Specht, 2013, p.7–8). To clarify this point, it may be said that learners in xMOOCs should follow and learn fixed content that is usually transmitted by professors in Higher Education institutions (sometimes the courses are also sponsored by these institutions), whereas in cMOOC models, the role of lecturers usually is similar to that of organisers who are responsible for creating the

framework for certain courses and inviting participants to join the courses to distribute and share knowledge and experiences and feed the learning.

Other researchers distinguish between the two models of MOOCs in terms of the learning centre. For example, Petkovska et al. (2014, p.109) note that the main differences between the two models are that the centre of attention in cMOOCs is all learners who contribute to create the knowledge and connect with the content of the course by using digital platforms such as social networks and blogs, whereas in xMOOCs, the professor is the centre of attention because the professor is responsible for leading the course and giving directions to participants. This suggests that cMOOC learners need to be active and lead themselves to discover learning.

Indeed, Yuan and Powell (2013, p.7) divide the xMOOCs based on their purposes into two models: profit and non-profit. Some examples of xMOOC platforms are Udacity, Coursera, Rwaq, Doroob, FutureLearn and Edraak. Udacity is considered to be a for-profit enterprise while edX is non-profit (Karnouskos and Holmlund, 2014, p.13–14). On the other hand, cMOOCs usually do not use a platform and instead they often use social media, which enables all participants to contribute and share content. Thus, cMOOCs do not offer formal assessment; however, participants can get feedback from each other (Bates, 2014).

Regarding the pedagogical approach, the design of xMOOCs is usually very similar to conventional university courses. Yuan and Powell (2013, p.7) perceive xMOOCs as an extension of the pedagogical models that are practiced in Higher Education, because, as Siemens (2012) says, xMOOCs focus on a more traditional learning approach in which the lecturer provides videos with short quizzes and exams. Thus, Petkovska et al. (2014, p.109) believe that xMOOCs might be more significant for Higher Education institutions. In fact, it can be said that xMOOCs have their roots in Learning Management Systems that are used in universities and which contain courses with video lectures, resources and automated assessment (Universities UK, 2013, p.14). As a result of the similarity between xMOOCs and

online university courses, university students may become very familiar with learning via xMOOCs. Accordingly, Siemens (2012) provides evidence that the xMOOC is extremely beneficial for learners because it facilitates access to the high-quality learning materials provided by many prestigious universities.

Bates (2014) illustrates the common design features that most xMOOCs have, including using specially designed platform software that allows registration of massive numbers of learners and provides facilities for offering digital materials such as videos and other supplementary files (PDFs, presentations, etc.) using computer-marked assignments that allow participants to receive immediate feedback, usually in the form of multiple choice assessment that rewards learners with certificates when they successfully complete their courses. However, some xMOOCs ask learners to write answers, for instance *Programming by Using Java*, which was an xMOOC provided by the Rwaq platform. The lecturer asked participants to write some codes using Java, and after several days he posted the correct answers. In addition, Bates (2014) notes that some xMOOCs have assignments in the form of open-ended questions that ask learners to assess their peers' answers. Bates (2014) believes that peer assessment often proves problematic for two reasons: the wide variation in experiences among learners and the involvement of different participants in different levels of the course. However, regardless of learners' experiences, it is important to provide them with the assessment criteria that they should follow as guidance to minimise the potential for differences that may happen between different assessors.

Bates (2014) also realises that most xMOOCs provide space for discussion and comment on the content. In fact, both models encourage learner discussions, but the impact of these discussions and how they influence learners' knowledge are different in each model. Kalz and Specht (2013, p.8) clarify this point through a comparison of cMOOCs and xMOOCs in terms of interaction types. They confirm that "cMOOCs are building mainly on the interaction



between learners”, whereas “xMOOCs focus on the interaction of the learners with the learning content” (p.8). This is because the content of cMOOCs has little structure and is reliant on a learner’s self-organisation (Kalz and Specht, 2013, p.7–8); moreover, it is usually organised by individuals without being sponsored by institutions of Higher Education, so learners from all around the world can connect to the course, share and contribute to create learning and collaborate with participants (Petkovska et al., 2014, p.109).

Although both models of MOOCs offer great opportunity for discussion, asking questions and commenting on the answers or responses of others, Bates (2014) believes that it is impossible for lecturers in MOOCs to moderate learners’ comments because of the massive number of participants and comments. Therefore, he found that lecturers can be classified in three categories as some of them do not offer any moderation, meaning learners rely on other participants in the course to respond to their questions (Bates, 2014). Some lecturers respond to a sample of learners’ questions and comments, and other lecturers use teaching assistants to figure out the common concerns highlighted by many participants in the course in order to respond to them through their teaching assistants (Bates, 2014).

I categorised the MOOCs I participated in (Chapter One, Table 1.1) according to the criteria given above for cMOOC and xMOOCs. Course 1 is an xMOOC because it focuses on transmitting content with no consideration for fostering discussions between participants, the result being that the participant does not have a sense of other spaces or the feeling of being with people in a particular place.

Courses 2 and 3 reminded me of typical university courses because of their content and testing, which had strict deadlines.

Course 4 reflects the form of current MOOCs that are visible on many Arabic platforms. Although the course transmitted the content, it provided various opportunities for participants

to interact with each other and benefit from being together. It also offered quizzes and exercises that aimed to promote self-reflection.

### **3.2.2 Summary**

When MOOCs were introduced in 2008, they were designed based on the idea of connectivism, where the learning occurs by connecting learners together to perform cooperative activities and share knowledge in order to distribute learning in an open environment. However, MOOCs are evolving, and this has led Higher Education professors to invest in the idea of MOOCs that focus on openness and massive courses to transmit their courses to all people by using platforms that are designed to facilitate the creation and management of MOOCs. Although all types of MOOCs share the same idea which considers the openness of an online course to massive numbers of participants, there are also differences among them in terms of the pedagogy and design principles that result them being divided into two types: cMOOCs, which emerged in 2008, and xMOOCs, which feature content prepared and produced by experts or university professors.

However, Moe (2015, p.16) believes that the use of the terms cMOOC and xMOOC could be problematic and these terms have not had any effect on the discussion about MOOCs' ideas. Furthermore, the distinction between cMOOC and xMOOC might not be enough to outline some courses and the typology is not standardised (Ross et al., 2014, p.59). Thus, this study draws on participants' perceptions of using MOOCs that are available in platforms designed specifically for MOOCs.

### **3.3 Understanding MOOC Learning Theories**

Researchers have emphasised the importance of understanding learning theory. First, Anderson (2004, p.45) argues that the potential of theory allows us to view the whole picture of our educational practice and research. This means that understanding learning theory gives educators an idea of how learning occurs in certain learning environments. According to McLeod (2003, p.35), the design of effective learning should take into consideration the theoretical bases that underpin that type of learning in order to add clarity, focus and direction to the learning design process, as well as preparing and presenting precise and effective organisational entities that address issues relating to appropriate training. In addition, Anderson (2004, p.45) claims that learning theory can help us connect our work with the work of others, developing coherent frameworks, facilitating deep understanding of our actions, and, most importantly, perhaps allow us to transfer gained experience to new contexts and experiences. Anderson (2004, p.46) describes some functions of good learning theory: first, it helps educators envisage how learning can be employed to the best advantage to enhance communication and information retrieval; second, good learning theory helps us to maximise the efficiency of our educational efforts by investing our time and using limited resources most effectively; and finally, a good theory allows us to interpret and plan from the already known to building the unknown. For these reasons, Hammond et al. (2001, p.2) argue that scholars have been trying to understand learning for more than 2,000 years by engaging in debate about learning theories that address key questions. Some of these questions include: How does learning occur? How does motivation happen? What influences learners' development? (p.15). Wilson and Peterson (2006) are two researchers who have explored learning theories. Their research (2006, p.2) examines theories that contain ideas about learning as a process of active engagement where learners actively construct their own knowledge, learning as both individual and social phenomena, and the differences between learner and group as resources to be used

as opposed to obstacles to be overcome. They believe that these theories could have potential in terms of helping lecturers in understanding the reasons for their teaching methods and also in terms of disturbing their teaching patterns and prompting them to rethink their practice (Wilson and Peterson, 2006, p.14).

Due to the importance of learning theory for each learning design, it is important to highlight and discuss the theories that were applied for the context of this study, MOOCs. In that regard, in the article *MOOCs and Applied Learning Theories*, Marsaglia et al. (2014a, p.3) raise the following important questions:

If MOOCs are a transformation in eLearning, how have pedagogy and learning theories changed to keep pace? What learning theory is most applicable to the MOOC, and what, if any learning theory is emerging as a result?

Of course, because the specific learning context of a MOOC varies across its learners, who are placed in many different social contexts and locations, it is a challenge for MOOC designers to create a design that suits such a heterogeneous set of learning needs and interests. The literature has discussed the learning theories that could be applied for MOOCs, which include connectivism, objectivism (behaviourism, and cognitivism), social constructivism, and points of view theory. The following sections provide more details about these learning theories within the context of MOOCs.

### **3.3.1 Connectivism Theory**

As previously mentioned (in Section 3.1), the first MOOC was *Connectivism and Connective Knowledge* (CCK08), led by Downes and Siemens from the University of Manitoba, Canada, in 2008 (Mackness et al., 2010). The course provided a unique opportunity to understand how students learn in massive open networks that offer possibilities for sharing knowledge, diversity and connectivity by encouraging learning autonomy (Mackness et al., 2010). It

involved the new learning theory for the digital age proposed by Siemens: the theory of connectivism (Mackness et al., 2010). Siemens (2005) emphasises that over the last 20 years, technology has been included in learning activities and there has been a consequent need to adapt learning theories to the digital age. According to Wheeler and Gerver (2015), the present technology-rich learning environment is distinguished by the sustained use of digital media, its integration into formal learning, and a move towards personalisation of learning. The use of new technologies and personal tools has changed the learning landscape as learners create and consume content across the Web as well as supporting each other and engaging in peer learning (Wheeler and Gerver, 2015). Consequently, learners in the digital era are taking greater responsibility for their learning outside the auspices of their learning institutions (Wheeler and Gerver, 2015). Connectivism seeks to explain how learners learn when they use personalised, online, collaborative tools (Wheeler, 2012).

One of the tenets of connectivism theory is that the use of digital media is increasingly important to learning in the industrialised world (Wheeler, 2012), which means learning is lifelong and largely informal (Wheeler and Gerver, 2015). Some commentators have stated that around 70% of individuals' learning is informal (Wheeler, 2012). For instance, according to Honigman (2015), online information can be published and shared by pulling in content from different sources across the Internet (aggregation) or by thoughtfully picking specific content manually to benefit particular participants' needs and interests (curation). The aggregation and curation of content results in large amounts of information and each individual selects what he or she requires as an independent learner. In this argument, because the use of digital media makes a significant contribution to individuals' learning, these technologies must be considered as a main element in learning theories. Therefore, Siemens advocates that connectivism as a model of learning provides insight for the learning skills and tasks that are needed from learners in the digital era.

Connectivism aims to address the characteristics of Web 2.0 and the dynamic growth of knowledge. It emerged as a reflection of the rapid changes that happened in our society as a result of developments in technology that have created a more complex and global society (Duke et al., 2013). Learning in connectivism can be seen as “an open-ended-process that is experienced differently by each person, high value is placed on contributing to a domain’s ongoing global dialogue” (Marsaglia et al., 2014a, p.10). Downes (2009, para. 8) states that:

The design of the course - as a distributed connectivist-model course - created a structure in which the course contents formed a cluster of resources around a subject-area, rather than a linear set of materials that all students must follow, because participants were creating their own materials, in addition to the resources found and created by George Siemens and myself, it became apparent in the first week that no participant could read or view all the materials. We made it very clear that the expectation was that participants should sample the materials, selecting only those they found interesting and relevant, thereby creating a personal perspective on the materials, that would inform their discussions.

Furthermore, he defines connectivism as:

The thesis that knowledge is distributed across a network of connections, and therefore that learning consists of the ability to construct and traverse those networks. (2007, para.1)

The role of facilitators in connectivism learning is focused on enhancing a space that enables learning connections to occur for learners, who are more responsible for forming their learning experiences than in traditional online courses (Milligan et al., 2013).

Siemens (2005) believes that the previous learning theories that have been used broadly in the creation of learning environments, including behaviourism, cognitivism, and constructivism, were developed in the past when technology did not impact the learning environment. Moreover, Marsaglia et al. (2014a, p.5) argue that “connectivism contrasts behaviorism, cognitivism, and constructivism, which operate on the premise that knowledge is construction, and objects-to-think with are created as an outcome of constructing thought”. To clarify this point, both Siemens (2005, 2006) and Downes (2005, 2012) assume that existing learning theories, namely behaviourism, cognitivism and constructivism, share two key attributes:

(a) Knowledge resides in the individual; and (b) knowledge is a thing—a representation—that people create or appropriate. Siemens and Downes argued that these two attributes are not compatible with the characteristics of knowledge in Web 2.0. In their view, the dynamism of knowledge in Web 2.0 contradicts the thingness of knowledge assumed by the existing learning theories, and the multiplicity of perspectives embedded in knowledge in Web 2.0 contradicts the individual location of knowledge assumed by the existing learning theories. (Clarà and Barberà, 2013, p.130)

Siemens (2005) believes that learning may reside within a database or community outside of ourselves and it needs the right people to connect with it in the right context. This means that online learning leads to rapid growth of information and knowledge, so we can no longer depend on the knowledge acquired from our educational institutions. Wheeler and Gerver (2015) argue that as a new theory of learning connectivism provides a useful new explanatory framework and offers fresh insights into learning in the digital age that are directly related to technology-supported learning. In their view, the most significant contribution made by connectivism theory is:

The premise that declarative knowledge can now be supplemented or even supplanted by an alternative to memorisation. Knowing where knowledge can be found is a significant advance on simply knowing about something. In a nutshell, connectivism holds that digital media has enabled knowledge to be distributed wider than ever, and what is now important is that students know where to find the knowledge they require, rather than personally internalising it. (Wheeler and Gerver, 2015, p.36-37)

To explain the relationship between MOOCs and connectivism, MOOCs are a type of informal lifelong learning that use technology. Technology encourages learners to be self-directed and self-determined in choosing what and how they learn. Thus, the earlier MOOCs that were organised around the principles of connectivism placed an importance on ‘learning to learn’ and emphasised the sharing and repurposing of knowledge rather than its hoarding (Wheeler and Gerver, 2015, p.39). In cMOOCs, learners join informal online learning communities, learn at their own pace, participate on their own terms, and even determine their own modes of assessment (Wheeler and Gerver, 2015, p.39); as a result, learning is self-determined based on the individual learner’s needs. Wheeler and Gerver (2015) argue that our learning and

understanding of the world is changing rapidly because of our connections to others through the Internet. Concluding Wheeler and Gerver's (2015, p.37) discussion about connectivism, they state that, "time will tell how intimately we will connect with our technologies, but the mere fact that many of us are 'always on' is a key indicator to where and how we discover new knowledge".

However, the concept of connectivism has also received criticism. For example, Duke et al. (2013) believe that, rather than being an independent learning theory, connectivism is important and valid as a tool for learning. Barry (2013) also supports this perspective as he believes that although connectivism has made a significant contribution in forming network theories, it should be conceived of as a phenomenon that may need to be explained in behaviourist, constructivist or cognitivist terms. Furthermore, Marsaglia et al. (2014a) and Clarà and Barberà (2013, p.130) argue that connectivism as a theory is not enough to explain how learning occurs in Web 2.0 or other online environments because it fails to address the central attributes of learning. Clarà and Barberà (2013, p.131) reflect on three important problems with the assumptions of connectivism. The first problem of connectivism is that it does not address what is known as the "learning paradox" (p.131). To understand this point, it is important first to highlight the meaning of knowledge in connectivism, which Downes (2006, p.6) illustrated as:

What we call 'knowledge' (or 'belief', or 'memory') is an emergent phenomenon.... It [knowledge] is, rather (and carefully stated), a recognition of a pattern in a set of neural events (if we are introspecting) or behavioural events (if we are observing). We infer to mental contents the same way we watch Donald Duck on TV - we think we see something, but that something is not actually there - it's just an organization of pixels.

Downes' explanation proposes that to know means to form a pattern of neuronal associations, therefore giving the impression of a representation at the experiential level (Clarà and Barberà, 2013, p.131). The patterns of association can be highly changeable; thus, representations are



dynamic (p.131). These neuronal associative patterns are produced by the learner's recognition of the associative patterns between informational entities (named nodes) located outside the learner and organised in a network (p.131). In the Web 2.0 environment, the nodes would be people, materials, and tools that the learner connects to (p.131). However, the findings of Mackness et al. (2010, p.266) demonstrate that the characteristics of connectivism do not resolve the paradox in a massive online course. This paradox was first posed by Socrates (Plato, 2002, cited in Clarà and Barberà, 2013, p.131) and can be applied to connectivism as follows:

How do you recognize a pattern if you do not already know that a specific configuration of connections is a pattern? When a pattern is connected for the first time, why are the nodes connected in that specific way, and why is that configuration seen as a pattern? Connectivism leaves this question unaddressed, and therefore unresolved.

Mackness et al. (2010, p.266) have explored the perspectives of some participants in Downes and Siemens's course in relation to its outlined characteristics, for example openness, diversity, autonomy, and connectedness/ interactivity, by conducting an online survey and interviews. Many participants, especially those who did not have high self-regulation skills, expressed the need for structure, support, and moderation (Mackness et al., 2010). This confirmed that connectivism causes an important learning problem in cMOOCs (Clarà and Barberà, 2013, p.131). Due to the challenges in learning that learners might experience in cMOOCs, a new form of highly structured MOOCs has emerged via learning platforms (such as Coursera and Rwaq). Therefore, researchers (for example, Rodriguez, 2013 and Alario-Hoyos et al., 2013) distinguish between two kinds of MOOC in terms of their functions and organisation of content (cMOOCs and xMOOCs are explained in Section 3.2). In this regard, Marsaglia et al. (2014a) highlight that it might be important to recognise that connectivism applies to just one type of MOOC – the cMOOC. This means that connectivism applies only to unstructured online learning where learners are able to determine their own specific starting points and which path

they would like to follow based on their own goals; however, this is not usually feasible in the current highly structured and massively populated MOOC platforms.

The second problem that Clarà and Barberà (2013, p.131) put forward is that connectivism fails to fully conceptualise interaction by perceiving it as a connection between a student and a human node in the network. In other words, the approach assumes that learning happens through the interaction between one student and one teacher as a binomial interaction—interaction (on–on), which contradicts the idea of interaction in online learning environments that enables a learning process to evolve dynamically via *multiple* relationships as opposed to merely on a one-to-one basis. Generally, it is assumed that MOOCs set up the possibility of a positive learning interaction between many students and teachers in forums. These interactions that can happen in MOOCs among multiple students and teachers have significant implications on students’ learning and expanding the information, which Clarà and Barberà (2013) believe connectivism does not account for.

The third problem discussed by Clarà and Barberà (2013, p.131) is that connectivism cannot explain the development of concepts over time (for example, a specific concept held by a 4-year-child changes by the time that child is 12 years old). Connectivism does not consider learners’ previous knowledge and so cannot measure or account for learning over time.

In addition to these problems, Kop and Hill (2008) note that whereas connectivism discards older theories, in actuality new theories should be built on existing well-respected established theory such as constructivism. These authors also argue that connectivism lacks sufficient empirical research (2008). The debates around connectivism reflect the need for examining its validity in different learning settings. Moving the debate forward, Clarà and Barberà (2013, p.130) suggest that “a promising psychological tradition able to explain learning in Web 2.0, and therefore, able to drive the future pedagogies of MOOCs, is the Vygotskian tradition of cultural psychology”. Further details about the Vygotskian perspective (social constructivism

theory) and the behaviourist and cognitivist approaches (objectivism theory) are provided in the next sections.

### **3.3.2 Objectivism Theory (Behaviourism and Cognitive Models)**

Objectivism has been widely employed for several years in the field of education (Vrasidas, 2000, p.2). The objectivist models are associated with behaviourism and cognitive theories (Moallem, 2001, p.114). This means that the behaviourist and cognitive approaches share fundamental philosophical assumptions with objectivism (Vrasidas, 2000, p.2).

In brief, learning in behaviourism theory occurs through receiving instructions that change student behaviour. Tomic (1993) argues that behaviourism theory has implications for designing educational technologies that value the instructional design of the materials (p.42) and the strategy of mastery learning, which is based on “the cumulative nature of learning” (p.43). An example of an educational technology that uses instructional design is programmed instructions (p.42), which are designed to transfer instructions of specific objectives in a linear manner. This is evident in the design of videos or written materials in MOOCs attempting to serve specific aims by transferring direct information from teachers to learners. The strategy of mastery learning asserts that each student must master every unit of a course at a minimum level before moving on to the next unit (p.43). Another implication of behaviourism theory in learning is the principle of reinforcement, which involves maintaining or changing student behaviour from undesirable to desirable (p.43). An example of reinforcement that can be used in MOOCs is the certificates of appreciation that learners can gain when they complete the course and pass the assessment.

In contrast, Yilmaz (2011, p.211) argues that while the behaviourist theoretical framework focuses on teacher-centred instruction, the cognitive and constructivist perspectives focus on

student-centred instruction. Learning in cognitivism theory occurs through an active process that learners should perform in order to organise new knowledge within the context of previous knowledge, thus making it meaningful. Therefore, the acquisition of information and learning differs between students because they depend on each student's previous knowledge, as well as the ability and effort that he or she has paid to the reconstruction and reintegration of new knowledge with previous knowledge. For this reason, in cognitivism theory, "instruction should be based on a student's existing mental structures or schema to be effective" (Ertmer and Newby, 1993, cited in Yilmaz, 2011, p.205). This shows the importance of providing interesting subjects that are meaningful for students and in accordance with their previous knowledge for effective learning.

Moallem (2001, p.114) argues that behaviourism influenced the design of objectivism models by providing instructions for the correlation between learning conditions and outcomes. In contrast, the contribution of cognitivism to objectivism models is an emphasis on "the learner's schema as an organized knowledge structure" (p.114). Vrasidas (2000, p.3) defines learning in objectivism theory as:

Change in behavior and/or change in the learner's cognitive structures. Therefore, instruction should be designed to effectively transfer the objective knowledge in the learner's head.

To transfer knowledge to learners, a teacher in objectivism should set or identify several elements: students' prior knowledge; the general expected learning outcomes; the specific learning objectives; the instructional strategies; the strategies and techniques of assessment; and evaluation procedures, which are usually used to determine to what extent the objectives are achieved (Moallem, 2001, p.114).

In fact, the design of some of the MOOCs that I experienced in certain platforms follow objectivist theories, in which the courses are divided into weeks and where students need to

complete the lessons chronologically. Teachers in these courses normally define specific learning objectives and design pre-packed materials that help transfer knowledge to learners. The exams often are in the form of multiple-choice questions that measure previously-defined objectives. I found the organisation and the structure of these MOOCs similar to the university online courses in the learning management system; however, it was also apparent that the social interaction in the forums helped learners to understand the content and construct some points, which adds another approach to explain how learning could happen in the MOOC environment. The next section explains this issue in terms of social constructivist theory.

### **3.3.3 Social Constructivism**

Marsaglia et al. (2014a, p.3) support Clarà and Barberà (2013) as they argue that social constructivism theory (Vygotsky's theory) matches the characteristics of the MOOC environment. Moallem (2001, p.114) argues that the constructivist model has many roots in social learning paradigms and is associated with cognitive science. Vygotsky stresses the fundamental role of social interaction in the process of "making meaning" and the development of cognition (McLeod, 2014). According to Vygotsky's theory of social constructivism, higher mental functions include transforming from the social level (interpsychological) to the individual level (intrapsychological) (Au, 1998, p.300). Kim (2001) summarises the three assumptions of social constructivism that are important in understanding and applying the models of learning from social constructivism perspectives: reality, knowledge and learning. To social constructivists, reality and knowledge are socially and culturally constructed through human activity, for instance interactions among individuals and with the environment, in order to create meaning (Kim, 2001). In this theory, learning is a social process that occurs to create meaningful learning by engaging in social activities (Kim, 2001). In this sense, understanding something deeply in social constructivism theory requires learners who should actively

construct their knowledge by themselves by engaging and interacting with each other and with the contents in various activities, such as working with teams on projects, engaging in useful discussions, working on a case study or problem-solving project, and providing self-reflection.

Designers or teachers in constructivist courses are guided to:

Identify the learning domain (boundaries of the content), identify fairly complex problems or cases to be studied within the identified learning domain, identify learning elements which the designer feels are most important within the defined domain (declarative and procedural knowledge that make up the learning domain), map multiple paths through cases (guided paths that create trails through the domain leading the learner to optimal results from the designer's perspective), provide tools for learner controlled path (where the learner sets his own objectives and decides where to go from there), encourage self-reflection (questions, guidance), and provide tools that help the learner decide what to do next based on self-reflection. (Moallem, 2001, p.116)

Although the specific knowledge that each learner will construct is unknown by the teacher, a teacher can understand the broad area of knowledge that learners can develop in a given domain (Vrasidas, 2000, p.9). This is because “constructivist environments promote the creation of multiple perspectives within a variety of contexts. There is not one correct understanding and there is not one correct way of solving a problem. Students are encouraged to utilize multiple ways of solving problems and justify their solutions” (Vrasidas, 2000, p.11-12).

The best-known formulation in the literature reviews about Vygotsky is the zone of proximal development (ZPD) (Wellington, 2015, p.38). In brief, Vygotsky defines the zone of proximal development as the difference between the learner's actual level of development and the level of achievement that learner attains in collaboration with peers (Vygotsky, 1987, p. 209, cited in Au, 1998, p.300). In this sense, learning occurs within the ZPD and it requires collaboration among learners and the guidance of the facilitators. Learners can reach a higher level of development when they collaborate with others who are already at a higher level of development (Vrasidas, 2000, p.10). In fact, learners in MOOCs could reach a higher level of development or improve their level within their ZPD by working with people at a higher level

of development by participating in discussions, summarising points, sharing new ideas, presenting examples from real-life contexts, presenting an argument, asking questions, and justifying their opinions. These social interactions that many learners perform in the MOOC forums help them to make sense of their learning and improve their understanding, which reflects social constructivism theory.

However, Liu and Matthews (2005, p. 398) claim that many concepts in Vygotsky's learning theory are yet to be confirmed and verified. In addition, Liu and Matthews (2005, p.388) refer to critiques of social constructivist learning theories, including that the transfer of learning cannot be taken into account in cross-community scenarios. Marsaglia et al. (2014a, p.3) present some limitations of the online environment to support social constructivism by discussing some arguments presented in Dulen's article 'Social Constructivism and Online Learning Environments'. Dulen perceives that social learning and the connection among learners is usually body language, which is difficult to read online, especially when the course is designed without the intention of social constructivism (Marsaglia et al., 2014a, p.3-4). This suggests that MOOCs are not necessarily compatible with constructivist theory because not all MOOCs follow the same design that supports the social interaction and leads to the construction of knowledge; alternatively, not all learners in MOOCs construct new knowledge as there are people in MOOCs who like to acquire information from the materials provided by teachers and have no intention of interacting with their peers in the environment. Marsaglia et al. (2014a, p.3) suggest another theory that could also match the characteristics of the MOOC environment, which is points of view theory (POV-T). This theory is explained in further detail in the next section.

### **3.3.4 Points of View Theory**

Marsaglia et al. (2014a, p.3) argue that social constructivism and points of view theory “share the commonality of learning with others, and through the lens of others”. The points of viewing theory was developed by Ricki Goldman, and it states that

Learners actively layer their viewpoints and their interpretations to elicit patterns, themes, and groupings of ideas that lead to a deep understanding of the content under investigation and to reach agreements.

(Goldman, 2007, and Goldman-Segall, 1996a, 1998a, both cited in Goldman et al., 2012)

The points of viewing theory encourages people to share knowledge by enabling them to see others’ viewpoints and learn from them, as well as helping learners to realise their own changing perceptions regarding a subject in different contexts and settings (Goldman et al., 2012). Marsaglia et al. (2014a, p.4) claim that POV-T is widely applicable to learning through social media, and it “addresses the challenges of a global society by helping individuals capitalize on others’ perspectives”. By returning to MOOC characteristics that include openness for a massive number of participants who have different backgrounds, it is clear that this theory could be applicable to the MOOC model of learning.

However, it is important to remember that MOOCs are not identical in their tools or even in their goals. In addition, MOOCs are different in terms of the learning activities that participants need to perform in order to improve their knowledge and understanding. Thus, McLeod (2003, p.42) confirms that thinking about learning theory perspectives should take into consideration the context, depending on the situation, learning goals, learners and performance.

### **3.3.5 Conclusion**

It seems apparent that the MOOC is still a new form of learning that has been discussed widely by educators and researchers in order to understand its essence and its applied learning theory.



From the discussion above, it is clear that there are strong debates about MOOC learning theories. This might result from a lack of agreement about the idea of MOOCs, the organisation of these courses, and the different contexts in which MOOCs may be employed (as discussed in Chapter One). In addition, the literature that I reviewed shows that since the emergence of the first MOOC, MOOCs have been linked with connectivism. However, over time and with the increase of the number of MOOCs, as well as the emergence of MOOC platforms in different countries, researchers have raised debates about the idea of MOOCs and how learning occurs in these communities. Because knowledge in MOOCs is generally dynamic from both sides - teachers and learners - and learning requires interaction with the materials and people in the MOOC environment, researchers perceive that learning in MOOCs represents social constructivism.

However, it is very important for additional research to clarify the meaning and the effect of MOOCs and the learning theories that they support in order to maximise their benefits and to provide optimal learning in MOOC. It might be possible that different learning theories could be incorporated into the design of MOOCs. Indeed, understanding that MOOCs could support theories about sharing knowledge, connectivism, objectivism, and constructivism guided me in designing this research to explore the implications of MOOCs through these learning theories. For example, understanding the participants' perceptions about their contributions in building the course contents has enabled me to consider the extent to which the social constructivism and connectivism theories can be applied to a research context.

### **3.4 Key Aspects of MOOCs**

Through examining MOOC platforms and the history of the first MOOCs, it is clear the definition of MOOC is ambiguous because there are few common characteristics between

MOOCs. Moe (2015, p.14) found that there is little coherence between the MOOCs that emerged in 2008 and 2011 in terms of their pedagogy and learning theory. Thus, he believes that the cMOOC and xMOOC models have no theoretical or pedagogical reason to both be called MOOCs. Despite this, many researchers have attempted to provide a general definition of MOOCs based on the general characteristics shared between them. For example, Moe (2015, p.16) notes several common elements between the cMOOC and xMOOC models, including their association with Higher Education structures through development or implementation, the need for technology to provide access to the materials and connection to professors, an implicit requirement of some prior knowledge related to the course content, and a space for discussions and communication between learners and lecturers.

However, Daniel and Uvalic-Trumbic (2014, p.17) argue that it is dangerous to present MOOCs as a revolution in Higher Education because they believe that it is important to ensure the viability of using MOOCs in teaching and learning practices, performing assessment and providing certification. For this reason, Daniel and Uvalic-Trumbic (2014, p.17) claim that by testing the possibilities of online technologies used in teaching and learning in different countries, MOOC may become a generic umbrella term for a diversity of innovations in Higher Education.

Another definition originates from McAuley et al. (2010, p.10–11), who define MOOCs as free, open registration online courses for anyone who has Internet access, with no fees, prerequisites or formal accreditation and with publicly shared curricula and open-ended outcomes; these courses are facilitated by practitioners, integrated social networks and online resources and offer news to participants through email or social media. In addition, Karnouskos and Holmlund (2014, p.12) clarify that MOOCs are delivered online and through a platform that allows learners to browse several for profit or non-profit courses. MOOC platforms enable learners to access academic courses with high-quality content that is free, scalable and

developed independently by academics or provided as part of agreements between the platforms and Higher Educational institutions (Universities UK, 2013, p.6). Mora (2013) confirms that there are common features that are usually required for each MOOC. These include three features that all MOOCs should have: providing online courses, open access and accommodation of a massive number of users.

The previous definitions included the most common characteristics of MOOCs from the literature review. These characteristics include collaboration and peer feedback, online courses, technologies serving the masses, and openness. The following sections provide the main general characteristics that MOOCs have alongside discussion about their meanings.

### **3.4.1 Collaboration and Peer-Feedback**

Some researchers believe that the main significant idea of MOOCs is participants' engagement through experiences and collaboration among learners through their communication (McAuley et al., 2010, p.24; De Waard, 2013, p.17). Schulz (2014, p.10) defines the meaning of a course in MOOC terms as an organisation that emphasises community, collaboration and communication. In this sense, De Waard (2013, p.19) found that MOOCs could be beneficial for strengthening informal and lifelong learning, building networks of communities for collaboration and promoting communications and interactions via social network tools.

Moreover, there is another point related to collaboration that often occurs in MOOCs - the source of feedback. In fact, although MOOCs were predominantly introduced by university lecturers, McAuley et al. (2010, p.11) argue that while facilitators of MOOCs usually comment on participants' questions and notes in a voluntary manner, the primary source of feedback for MOOC participants usually originates from the contributions and collaboration of the participants in the community of MOOCs and within social media. This might be a result of

open registration, which makes it nearly impossible for the lecturer to provide individual feedback to every learner, especially when the number of learners exceeds a hundred (Kasch et al., 2017, p.848). Hence, the implication is that learners in MOOCs should invest their existing time in different people who have different backgrounds to benefit from their feedback and experiences. If this is the case, MOOCs foster possibilities for more learner autonomy in comparison to conventional courses – perhaps something that may not be anticipated.

### **3.4.2 Online Courses**

It is important to consider that a MOOC is an **online educational course**; thus, it should have all the characteristics of this type of course. Mora (2013) clarifies the meaning of the course by highlighting the main elements that any course should have, including learning objectives that learners should achieve after completing certain activities during a specified period of time, quizzes and tests to assess the acquired knowledge of learners, and some kind of interaction between learners and lecturers. Karnouskos and Holmlund (2014, p.11) state that the course generally implies a series of lessons or lectures in a particular subject; this means that the course should be built on the particular objectives identified by the lecturers and have a general framework that includes learning activities, assessments and communication to help learners to achieve the course aims.

In addition, Mora (2013) explains the online features in MOOC terms as the necessity of an Internet connection, which is essential for anyone to access such courses and for their introduction on a global scale. Karnouskos and Holmlund (2014, p.11) confirm that online courses are those courses available via distance learning wherever an Internet connection is provided. Therefore, a MOOC does not require any physical attendance on the campus.

### **3.4.3 Technologies Serving the Massive**

It is clear from this discussion above that MOOCs are similar to the courses that are provided by universities using Learning Management Systems (LMS). However, Songbin and Fanqi (2015, p.1365) believe that MOOCs could offer more opportunities than traditional learning and that MOOC platforms have more characteristics than the traditional e-learning system. This can be seen clearly through the massive feature that distinguishes MOOCs from formal courses that are provided on university campuses by the use of an LMS such as Blackboard. The massive makes the online course capable of providing large-scale learning experiences to a large number of participants. Thus, although the curriculum of MOOCs may be identical to that of standard courses, learning activities should ideally be restructured to better accommodate a large group of learners who can choose their level of participation within the course (Thompson, 2011b, p.1). Furthermore, although many of the technologies and learning activities that underpin MOOCs have been available in different courses for a decade, MOOCs provide accessibility to a large range and volume of participants and can be produced at a lower cost compared with the previous online or traditional courses (Universities UK, 2013, p.14).

Given that the unique characteristic of the MOOC is being massive, many researchers have tried to provide a clear explanation of the meaning of that term. For example, Moe (2015, p.16) explains that as massive is associated with the connectivism theory, promotes learning and encourages participants to share experiences, it relates to both learner experience and the structure of the MOOC. Consequently, MOOC platforms must have the ability to deal with a massive number of participants in each MOOC. In addition, a MOOC should be massive in learning experiences, which means that the materials and course content should be able to meet the different needs and levels of participants in order to maximise the course's potential and allow participants to achieve positive learning experiences.

Alternatively, in her research on MOOCs, De Waard (2013, p.5) is hesitant to use the term massive because she believes it to be an unclear term comprising an indescribable number of people. In fact, Glance et al. (2013) point out that there is no specific definition of the concept of 'Massive' in MOOCs as it is conceptualised differently by different people because there is no absolute range of participant numbers that can be defined as 'Massive'. This suggests that it might be important to specify a particular number or range that illustrates the meaning of the term 'massive'. However, De Waard (2013, p.5–6) decided to retain the term because she believes it to refer to the pedagogical model of MOOCs with independent learners who have access to information and share and create new content in the learning communities. This could mean that, because the number of participants in a MOOC is very large, there is a higher likelihood of significant variation in their background and prior knowledge regarding the MOOC they have joined; thus, MOOCs also should be massive in terms of providing learning experiences and knowledge in order to benefit the different levels of participants. By looking to the massive feature of MOOCs, it seems that the reason behind the focus on social interaction among learners in MOOCs is that it encourages the sharing of experiences and information, especially because the knowledge and background of each individual learner is different.

On the other hand, some researchers have tried to define a particular number that may accurately be referred to as massive. For example, Karnouskos and Holmlund (2014, p.11) believe that with respect to MOOCs 'massive' means that these courses are open to a very large number of participants that can be several thousand per MOOC. Schulz (2014, p.10) claims that massive means 'many', starting with 100 participants. In addition, Mora (2013) explains the term as the ability to allow access to a great number of learners, where the number is much larger than any traditional online course or face-to-face class can accommodate, and MOOCs should be capable of accepting any changes in the number of participants in several orders of magnitude without any major problems with operation, such as going from 1,000 to 100,000

learners in a single course. This suggests that, with respect to a MOOC, ‘massive’ refers to the number of participants who can join the MOOC, which should be much larger than that of any other course, whether online or traditional; therefore, it can exceed thousands of learners.

However, McAuley et al. (2010, p.24) claim that regardless of the number of participants in a MOOC the methods and tools that are used to run the MOOC seem to be in their infancy, albeit with demonstrable improvement with each MOOC that runs. This seems to be true because, with the adoption of the idea of the MOOC in 2012, many platforms emerged that have the technical ability to run courses for massive numbers of participants. In addition, Songbin and Fanqi (2015, p.1368) noticed that MOOC platforms have made considerable progress in their construction, which has resulted in the widespread use of these platforms, including Coursera, FutureLearn and Udacity, by many universities and educational institutions. Songbin and Fanqi (2015, p.1365–1366) explain that the common technical requirements of MOOC platforms are as follows:

- 1) Scalability: MOOC platforms should have the capacity to sustain a massive number of lecturers and learners that could exceed hundreds.
- 2) Concurrency: MOOC platforms should have the ability to support a massive number of participants performing online learning simultaneously, which could be a hundred times more than that of traditional courses.
- 3) High performance and fast responses: The infrastructures of MOOC platforms must ensure an effective online experience by having powerful computing capability.
- 4) Reliability: MOOC platforms should ensure the continuity of online services provided to participants and avoid any service interruptions.
- 5) Globalisation: MOOC platforms should be open to anyone from anywhere; however, this does not mean the MOOC platform is open source or free of charge.

- 6) Portability: It is important that the platform has the ability to support smartphones, tablets and any other mobile devices.

The following section provides more clarification about the meaning of openness in MOOCs in relation to the literature review.

#### **3.4.4 Openness**

It can be said that the feature of openness in MOOCs is derived from the concept of open educational resources, which allow people to access educational materials for free, and this feature can distinguish MOOCs from other online courses where registration typically needs to be affiliated with a certain institution or enrolment requires payment of fees. According to Grünewald et al. (2013, p.1), the attribute of openness ensures access to the content is not restricted by affiliation, cost or any type of privilege.

Many researchers have illustrated the meaning of openness in MOOCs; for example, Karnouskos and Holmlund (2014, p.11) simplify the meaning of openness by associating it with courses that are free and open to anyone. Further, Mora (2013) argues that openness in MOOCs has several meanings, including (1) the course is open to anyone without requiring any prerequisites; (2) access to course resources (such as videos and lecture files) is free, but sometimes there are economic costs when the participant needs to direct a question to the lecturer or obtain a certificate; (3) MOOCs should be used in open learning platforms such as wikis, blogs or any other open websites; and (4) open is also sometimes interpreted extensively as making the open content reusable or republishable by other people, although many of the most successful MOOC platforms such as Coursera and FutureLearn have little interest in making their MOOCs open in this sense.



Moreover, Rousing (2014) also explains the meaning of openness in more detail by illustrating five interpretations of openness: openness (1), breaking geographical boundaries that enable learners to access learning and educational experiences (p.14); openness (2), no entry barriers and no requirements that could hinder people's access to the educational model, which is different from its formal educational counterpart that considers certain requirements from learners (p.16); openness (3), flexibility in educational experience by considering the diversity of learners and enabling them to learn from anywhere at any time and at any speed, as well as providing courses in different fields and subjects (p.16–18); openness (4), open pedagogy so that learners can pick the materials that they prefer to use in their learning such as videos or PDF files (p.25); and openness (5), openness of resources, which has different levels, starting from making the resources free, without any price barriers, and the ability to reuse and copy the content in another context in order to revise or translate the content, to remix two or more resources to create a new one, and to redistribute or share the content with other people (p.28). However, openness is different based on whether the MOOC is a cMOOC or an xMOOC. Grünewald et al. (2013, p.1) confirm that the openness of MOOCs is different regarding learning process and content. Although all MOOCs share the same features of scale and free access, Rodriguez (2013, p.67) argues that they also are markedly different in their concept of openness, which is related to their pedagogical model and learning theory. This could mean that some MOOC content requires learners to pass the previous lesson before continuing to the next. In this case, some parts of the content are restricted and not open to the learner until he or she completes the requisite lesson or section. For example, I experienced a MOOC at Coursera in which the video pauses and provides a short quiz; the learner needs to answer the questions correctly in order to see the rest of the video.

### **3.4.5 Summary**

In conclusion, the term MOOC could be seen as a new term in education and is always associated with its characteristics, which are massive, open and online. For this reason, the history of MOOCs has been connected with these features. Herrick (2013, p.2) considers a MOOC to be successful when it has at least two of the following characteristics: (1) the number of participants in the MOOC is massive to meet Stephen Downes' requirement; (2) the facilitators or MOOC producers compose an established group or educational institution; and (3) the MOOC generates any Internet buzz (meaning that many people search for or blog about it).

However, by investigating the previous literature and research it is evident that there are debates about the meaning of these features, possibly as a consequence of the ambiguity in defining MOOCs as they are different based on the type of course and what it provides. Thus, it might be important to write about the MOOC to provide a clear and precise idea about its definition because this would have a significant impact on many universities and educational institutions trusting MOOCs and increasing their reliability in terms of embracing MOOCs, especially because it is clear from MOOC characteristics that it may be understood that MOOCs not only help people from an educational standpoint but also provide them with the skills and knowledge that can help them in their lives in general, as well as in their careers and personality improvement.

### **3.5 Participants in MOOCs: MOOckies**

Dillahunt et al. (2014, p.177) believe that MOOCs could be considered as a means for democratising education because they provide free access to a range of Higher Education courses for individuals with Internet access. This potentially provides them with an opportunity

to learn from the best professors and also enables them to expand their personal networks and enhance their career development.

However, it is important to know which participants are taking advantage of MOOCs and how they usually behave when they join these courses with a massive number of learners around the world. Awareness of MOOC participants is crucial because it helps with understanding their needs, and this could have a significant effect on the future evolution of MOOCs (Zheng et al., 2015, p.13). In addition, investigation of participants' aims and identifying the MOOCs that often attract a majority of them are essential to improving MOOCs in the future and maximising their potential. The following sections discuss the characteristics of MOOC participants and their aims and behaviour.

### **3.5.1 Participants' Aims and Behaviour**

Many researchers classify the participants in MOOCs in terms of their aims or their behaviour. For example, Klobas (2014, p.149) classifies registrants in MOOCs as information seekers who are looking for basic information by registering in the course, or window shoppers who already have the basic information about the course but need more details. Klobas (2014, p.149) classifies others as downloaders, where participants download course materials to use them as resources or to study them offline, so downloaders might not be considered as true participants either. This is similar to Lakshminarayanan's (2012, p.224) situation as he became a MOOckie after registering for a few MOOCs; he described himself as a 'voyager' rather than a 'serious knowledge seeker' and allocated one day each week for MOOCs. This might be because learners in MOOCs do not have penalties or restrictive rules that oblige them to become serious learners; thus, they can learn the courses at their own convenience and for a range of purposes.

In addition to Klobas' classification, Kizilcec et al. (2013, p.172) divide MOOC learners into four categories: (1) completers, similar to learners in a traditional class because although their performance is varied, they all complete the majority of the assessments and assignments; (2) auditing learners, who engage by watching course videos, but complete assessments infrequently and do not obtain course credit; (3) disengaging learners, who engage completely at the beginning of the course, and then either disappear from the course entirely or merely complete watching video lectures without doing the assessments; and (4) samplers, who watch just some of the course materials - usually at the beginning of the course - because they explore the contents briefly when the course is already fully underway. From these explanations, I can conclude that participants in MOOCs are either interactive or non-interactive. Interactive participants are usually highly motivated, which makes them join the course and self-lead their learning by managing their time and tasks in order to complete all assessments and assignments as well as interact and collaborate with other learners in valuable discussions or projects, whereas non-interactive learners may join the course to wholly or partially access the materials without intending to submit the course assignments or even communicate with other learners.

However, the data from Coursera identifies the participants' aims in accordance with their positions (Universities UK, 2013, p.13). It indicates that learners generally have different backgrounds, for example: vocational learners who are professionals looking to develop their careers; educators and researchers who use MOOCs as Open Educational Resources to help them in their own work; Higher Education learners who access MOOCs that are part of their existing courses in order to promote their learning and teaching resources; hobby learners who engage with MOOCs for educating themselves (this group tends to be the largest in most courses); and prospective learners who are pre-18 and are exploring different MOOCs to decide if they are a good fit, or may intend to embark on further formal courses (Universities UK, 2013, p.13).

De Coutere (2014) found that approximately 45% of participants in MOOCs state they are working and preparing for the next step in their careers. This is also supported by Vivian et al. (2014, p.6) who found that the majority of participants in a wide range of MOOC studies were professionals and joined MOOCs for professional development, personal interest and to improve their knowledge. Professionals in MOOCs are usually aiming at developing their knowledge by using a flexible, low-cost method (Karnouskos and Holmlun, 2014, p.12).

Because of the common use of MOOCs for the aim of professional development, Laurillard (2014) argues that MOOCs succeed in providing university teaching free for highly qualified professionals. This could be one of the reasons behind offering courses in many platforms that are mainly designed to develop the skills of employees or job seekers. For example, Doroob, the Saudi MOOC platform, provides excellent opportunities to improve the employment skills of participants by offering MOOCs that aim to qualify people in professional skills (Doroob, 2014). In addition, Coursera offers 'Coursera's Career Services', which enables talent by using MOOCs to connect with high-tech businesses (Mazoue, 2013, p.167).

In addition to the participants' aims and benefits discussed in the literature above, Sandeen (2013, p.7) argues that anecdotal reports in the media describe learners who have completed MOOCs in computer science and have then listed their MOOC activities in their résumés or LinkedIn profiles, where employers might have a chance to notice them. Thus, Mazoue (2013, p.167–168) claims that if MOOCs can create a system that rewards credentialed competency, they might undermine the value of campus-based networking because they connect talent directly to prospective employers. It could be said that MOOCs attract many employees and job seekers because they offer free and flexible learning in terms of time and place, as well as providing the skills required by the labour market.

Some researchers have had the idea to develop more people's careers by cascading the learning down from participants in MOOCs to other professionals. For example, Laurillard (2014)

suggests that MOOCs could be used for developing primary school teachers to solve the problem of much needed professional development. She asserts that MOOC-style courses could be used for the development of 10,000 teachers in developing countries, each of whom could then train another ten teachers in neighbouring towns via the same MOOC materials. In turn, each of those local town teachers could train another 16 local teachers in their villages (Laurillard, 2014). In this way, Laurillard (2014) believes that although the methods used in MOOCs are not sophisticated enough to be suitable for teaching children or undergraduates in developing countries, they could help professionals by training them to make a difference. This fits well with the original idea of MOOCs which is of an open learning philosophy as discussed earlier (Chapter One, Section 1.3; Chapter Three, Section 3.4.4). Laurillard's assumption could be very effective, especially as Ghosh (2014, p.46) demonstrates that the highest level of participation is from 115 countries. Although it is expected that each platform may be more attractive to people from the country where it was launched, Kim (2013) reports that two-thirds of the learners in Professor Walter Sinnott's course that ran in Coursera were not from the United States, and his course provided educational opportunities to many people who had not had such opportunities previously.

Moreover, there are successful experiments that have proved the effectiveness of using MOOCs for professional development. For example, Vivian et al. (2014, p.6) delivered MOOCs for Australian teachers aimed at professional development to support them when a new computer science curriculum was introduced to students beginning with the first grade of school. This provided teachers with a great opportunity to interact and support themselves and share the open resources and best practices and strategies for developing effective pedagogies in order to implement the new curriculum.

Further explanation about MOOC participants' ages and positions are discussed in the following section.

### **3.5.2 Participants' Characteristics**

Due to the open nature of MOOCs, there are often no restrictions on participants' age, gender, qualifications, or position. For this reason, many researchers have tried to look at MOOC participants to understand the characteristics of the majority of participants attracted to MOOCs in terms of their position, age, gender, and qualifications. For example, regarding the age and gender of these individuals, De Coutere (2014) confirmed from the LeaderMOOC pilot that about 92% of MOOC participants were over 25 years old, whereas the majority of respondents in the study of White et al. (2014, p.7) were male and in the 18 to 24 age range. Furthermore, Christensen et al. (2013, p.1) conducted a study on learners who enrolled in at least one of the 32 MOOCs of the University of Pennsylvania's Coursera platform; they found that the majority of the participants were males rather than females from developed countries, and that the age of 40% of the MOOC learners was under 30 years. Haywood (2016, p.71) demonstrated that University of Edinburgh MOOC learners from the end of 2012 to summer 2015 were distributed evenly between females and males. It can be deduced from these studies that most MOOC participants were less than 30 years old and from developed countries and either mostly male or distributed equally between males and females.

In addition, many researchers have explored the qualifications and positions of participants in MOOCs. For example, Kop et al. (2011, p.79) conducted research on two cMOOCs that were distributed across the Web in different learning environments with no body of content; the courses were a joint venture between the Institute for Information Technology at the National Research Council Canada (NRC) and the Technology Enhanced Knowledge Research Institute (TEKRI) at Athabasca University, Canada. Kop et al. (2011, p.80-81) found that participants in these MOOCs were professionals with backgrounds that included education, design and research, as well as the development of learning opportunities and environments, and the participants were employed as university professors, managers, teachers, facilitators,

researchers, trainers, mentors and engineers. Generally, it is evident that cMOOCs tend to be “populated by networks of advanced professional specialists” (Universities UK, 2013, p.13), which could be because cMOOCs provide a great opportunity for specialists to connect with each other and share valuable resources and information on an international basis in a convenient environment.

Schulz (2014, p.15) regards learners in MOOCs to be highly heterogeneous because the participants include non-students, students in the first year or nearing the end of their courses, and graduates. According to the survey data collected at Coursera, many learners who responded to the surveys were enrolled at Higher Education institutions and more than 80% of them had at least a first degree, while more than 40% had either a Master’s or a Doctoral degree (Universities UK, 2013, p.13) (see Figure 3.2).

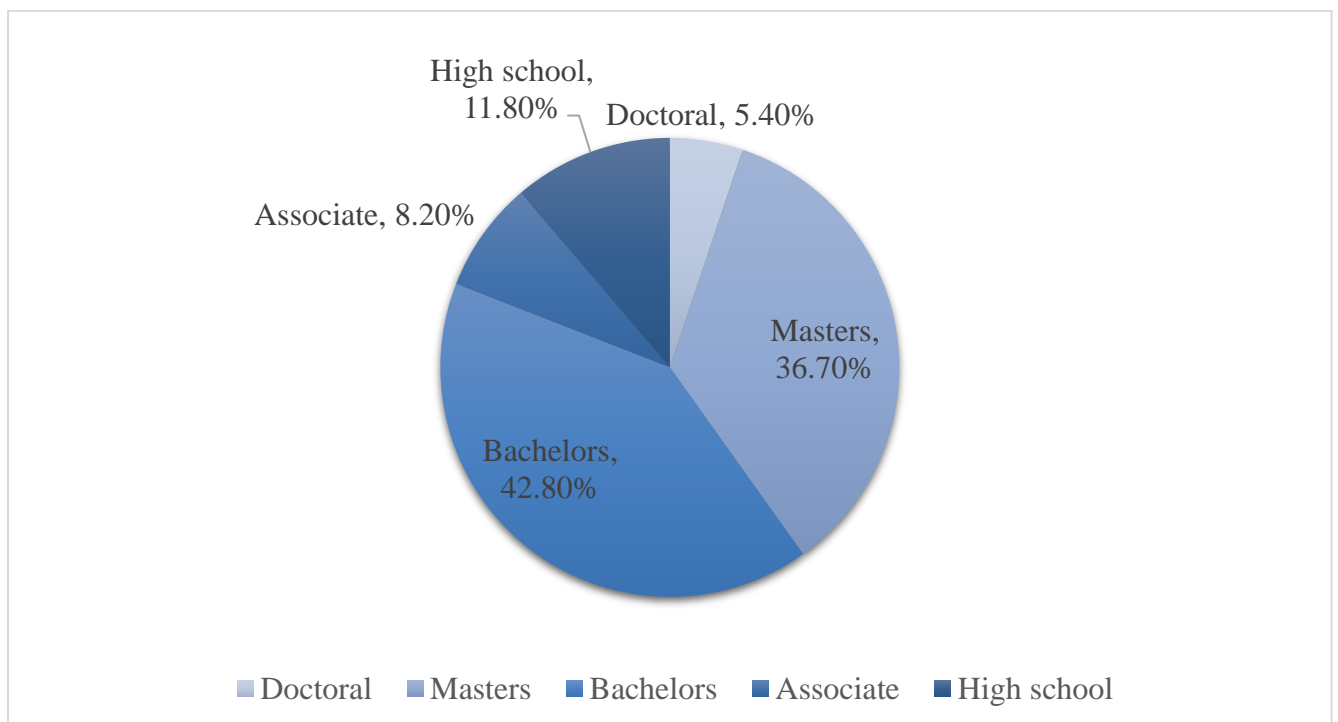


Figure 3.2: Prior Level of Education for Participants in the Coursera Survey, January 2013 (Universities UK, 2013, p.12)



However, this percentage increased by 5% in 2014 as Laurillard (2014) shows that 85% of participants in Coursera MOOCs already hold university degrees. In fact, the findings from the studies at Coursera are compatible with other research. For example, the study of Christensen et al. (2013, p.1) shows that participants were young, well-educated and employed. Furthermore, according to Karnouskos and Holmlund (2014, p.12), 80% of the typical participants in MOOCs are professionals who already have graduate credits (44%) or hold a university degree. In addition, Ghosh (2014, p.46) found that the majority of the participants in the *Mobiles for Development* course were qualified with formal degrees; however, the participants also included housewives and young learners about 18 years old. From reviewing these studies, it can be deduced that the majority of participants are young professionals who hold university degrees.

The large number of university students and professionals in MOOCs may be due to potential opportunities offered by MOOCs to discover learning in platforms that are entirely open with the ability to see and hear, as well as participate and collaborate, on a global scale (Thompson, 2011b, p.2); this might be an important need for professionals, students, and housewives. Employees could share their experiences and knowledge within MOOCs, which could help them become more confident in their careers. Schulz (2014, p.15) believes that the diversity of participants in terms of their culture, qualifications, career experience, religion, age, gender, disability and worldview is considered to be an opportunity that allows a change in participants' perspectives, which enriches education and academic learning.

It is important to note that I included the participants in MOOCs in this literature review because I wanted to provide an overview of their general characteristics. Unfortunately, all the studies I found were conducted on non-Saudi platforms. Therefore, I found it interesting to provide a clear overview before comparing my findings related to the demographics of

participants with those of the previous studies in Chapter Five to determine whether there were any contrasting features in the findings, as well as to think about similarities.

### **3.5.3 Summary**

By looking at many studies, it seems apparent that the majority of participants in MOOCs are young people who are at the beginning of their careers and are striving to develop professionally. These results highlight the greater need of young people generally and employees in their first years to obtain experience and knowledge that could help them to develop in their jobs and expand their knowledge. In addition, MOOCs seem to be more attractive to young people who like to utilise new technologies, as well as educators. This might be because MOOCs are one of the most flexible and easy ways for these demographics to improve their knowledge, which should be constantly renewed due to the explosive growth of technologies and teaching methods. In addition, young people might be more familiar with the design of MOOCs, which requires learners who self-organise their time and are capable of monitoring themselves; in particular, they are more likely to have experienced online learning during their academic studies.

## **3.6 The Design and Pedagogical Foundations of MOOCs**

In recent years, teachers and universities have generally begun to change their practices because of the vast improvements in Information and Communication Technologies (ICTs) that have occurred, along with the high demand for online learning. According to Weller (2011), tertiary education is currently facing significant changes and challenges in its teaching and learning approaches due to the movement from a scarcity environment, that is, traditional materials such as books, to a pedagogy of abundance, that is, massive amounts of information

in the online environment. There has been a noticeably rapid increase in the number of online courses offered by universities as a result of two main factors: (i) the emerging need to keep up with the vast amount of information, and (ii) the opportunities offered by the new ICT. For example, the Al-Imam Muhammad ibn Saud Islamic University in Riyadh now offers distance learning in the form of online learning for all Bachelor's degree programmes (Alturki, 2014), and Al-Khalifa (2009) found that the number of enrolled students increased from 6,000 in 2008 to more than 15,000 in 2009.

As a result of these challenges and opportunities offered by new ICT, there has been a rapid increase in the number of MOOCs offered by platforms. Regularly offering a variety of new courses through platforms requires partnerships with educational institutions to ensure the quality and suitability of courses with regards to people's needs. Although MOOCs emerged in 2008, Allen and Seaman's (2013, p.3) research shows that only 2.6% of Higher Education institutions currently have MOOCs and another 9.4% report that MOOCs are in the planning stages. The majority of Higher Education institutions (55.4%) are still undecided about MOOCs (Allen and Seaman, 2013, p. 3). A number of significant questions have emerged from this phenomenon that need to be solved to encourage learning institutions and employers to take further steps in making partnerships with MOOC platforms, which could help increase the number of courses in different fields and improve the credentials of MOOCs certificates in the workplace. One of the most important questions about the effectiveness of MOOCs relates to the pedagogical foundations of these courses in relation to the characteristics of MOOCs (Glance et al., 2013).

However, the issue here is that the majority of research so far suggests that, rather than being considered as a genre, MOOC pedagogies should be evaluated as individual projects based on their own characteristics and aims. This is due to the fact that MOOCs are not identical in their

characteristics. This might be due to the different kinds of platforms that provide the MOOCs, each of which have different tools and features; for instance, Coursera, edX, and FutureLearn all differ significantly. For example, Raposo et al. (2015) conducted research to ascertain the pedagogical components of MOOCs. The results of their study suggest that different platform providers have provided different pedagogical design conditions in their MOOCs. Moreover, the study suggests defining the pedagogical design of MOOCs in five key areas: learning; activities and tasks; tools and resources; interactivity; and assessment (Raposo et al., 2015).

Furthermore, as the goals and aims of MOOCs vary considerably (Bali, 2014), Glance et al. (2013) argue that the pedagogical foundations tend to be difficult to define as MOOCs may be designed to supplement existing online courses, either for distance learning or as an extension of face-to-face learning, or alternatively as stand-alone courses. Therefore, comparing the essence of MOOCs is challenging as they could be combined with a blended learning approach or so-called 'flipped classroom' techniques. This can happen when MOOCs are used as interactive materials or as a tool for collaboration and interaction among the students, especially when they become beneficial for the study method. In this regard, Blom et al. (2013) reveal that some students who participate in study groups prefer the blended learning style; thus, university courses could combine collaborative MOOC study group sessions with traditional lectures within the same course. For example, in San Jose State's experiment in the United States, the courses used blended learning approaches incorporated with some of the edX course materials and the faculty members were given the responsibility to determine the proportion of edX course materials they would use in teaching (Kolowich, 2013). One of the courses was in electrical engineering, and a MOOC from edX was used in one section of the introductory course (2013). The results from this experiment showed that students succeeded at a much higher rate than students in the traditional sections (2013). This highlights that MOOCs can be used to improve students' grades, which makes them feasible in combination

with a blended learning approach. In this case, there are two types of participant: university students, who learn in a blended learning approach, and other participants from outside the university. Consequently, evaluating and analysing the pedagogy of MOOCs will be different according to the two approaches that participants follow.

However, despite these recognised differences, there are a number of common features contained within the majority of MOOCs. Most MOOCs have many lectures formatted as short videos that are usually combined with embedded quizzes; they have guidance in the forms of a syllabus and a course map; they include automated assessment and/or peer-assessment; and they offer online forums that are often divided based on weekly activities. Next, the evidence regarding the pedagogical foundations of MOOCs is discussed based on the characteristics of MOOCs and their related pedagogical benefits as perceived by Glance et al. (2013). These characteristics and their pedagogical consequences are shown in Table 3.1 below. However, at the end I consider adding an important new point to this pedagogy in addition to Glance et al. (2013): the lecturer’s role and the learner’s role.

Table 3.1: Characteristics of MOOCs and their Related Pedagogical Benefits (Glance et al., 2013)

<b>MOOC characteristic</b>	<b>Pedagogical benefits</b>
Online distribution of content	Efficacy of online learning
Online quizzes	Retrieval learning
Short videos with quizzes	Mastery learning
Peer and self–assessment	Enhanced learning
Short videos	Enhanced attention and focus
Online forums and activities	Peer assistance

### **3.6.1 Online Distribution of Content: Efficacy of Learning**

In contrast with traditional, face-to-face university courses, the principle feature of MOOCs is that they take place online (Glance et al., 2013). One of the main advantages of this modality of learning is that it increases the accessibility of learning for those whose access has been previously limited, such as those who cannot access the physical location of the course like stay-at-home parents, people who live in isolated locations, people with special needs, or those who work (Hajhashemi et al., 2014). Furthermore, it allows all students the flexibility of accessing materials from any location at any time, therefore increasing the potential opportunities for learning throughout the day or night (Means et al., 2009).

However, it is also acknowledged that online learning has a higher attrition rate than face-to-face learning (Olson and Wisner, 2002), which also seems to apply to MOOCs. For example, a recent study of over one million MOOCs users reported that only about 50% of enrolled students on the University of Pennsylvania's MOOCs viewed the lecture content, with completion rates averaging approximately 4% (Stein, 2013). Knox et al. (2012) state that it is important to discuss issues related to the contact and dialogue between lecturers and learners and between the learners themselves because it has a tangible impact on learners' satisfaction, which prevents them from dropping out of an online course. This suggests that contact and engagement are still heavily mediated in MOOCs. With a huge number of participants this issue may result in high dropout rates. Users seem to require additional help and support in completing MOOCs and this issue should be considered carefully when creating and implementing MOOCs. In addition, Chiappe et al. (2015) highlight that free and open courses may lead to some difficulty in pedagogical discourse in terms of demonstrating the educational best practice associated with distance learning.

Despite these criticisms, the majority of research generally affirms that MOOCs have a considerable pedagogical basis and there is no evidence to prove that MOOCs are less effective

in their learning experiences than their face-to-face counterparts; in fact, they could actually improve learning outcomes (Tobías et al., 2015; Bali, 2014; Glance et al., 2013) due to their accessibility and flexibility in learning. Research has also shown that online learning can be at least as, if not more, effective than face-to-face learning (Means et al., 2009; Shachar and Neumann, 2003). For example, Kop et al. (2011) conducted research that shows that using online creative activities could help in moving from a pedagogy of abundance to a pedagogy that supports learners. This means education can be changed from transferring too much information to students to providing the students with the opportunity to build their own information by using online activities. Such activities help learners and course facilitators build effective and collaborative communication and enhance knowledge that may influence learning outcomes. Thus, online learning may lead to a much better learning experience compared to face-to-face learning. Nevertheless, Knox et al. (2012) state that many MOOCs appear to maintain participant numbers that far exceed some campus-based courses. It could be said from this discussion that MOOCs seem to face a significant challenge regarding users' engagement and interaction, and this area needs to be addressed to improve the efficacy of MOOC learning.

### **3.6.2 Online Quizzes: The Importance of Retrieval Learning**

A common format of MOOCs is the inclusion of short videos presenting new information, followed by quizzes assessing learners' knowledge of the information; these quizzes usually focus on information retrieval. Retrieval learning involves learners repeatedly recalling information from short-term memory in order to improve their retention in the long-term memory (Karpicke and Blunt, 2011). This format has provoked many concerns about the quality of learning and teaching in MOOCs. One of the arguments is that MOOCs do not encourage high-level learning skills, but rather focus on information retrieval. In addition, Knox et al. (2012) claim that the methods of self-assessment and the open curricula used in

MOOCs may not fit with all disciplines. In fact, although the majority of MOOC platforms attempt to promote curricula that are equivalent to campus-based courses, with high levels of formal rigor, clear content delivery and reliable assessments (Knox et al., 2012), it is difficult to conduct an assessment of MOOCs which is equivalent to campus-based courses because of the massive number of participants.

Many studies have considered the issue of retrieval practice in MOOCs and the evidence so far proves their worth. For example, Roediger and Butler (2011) found that the practice of information retrieval is essential in enhancing a powerful memory, which is vital in the long-term retention of knowledge. Retrieval practice enhances learning (Karpicke and Blunt, 2011) because it tends to enhance the acquisition of knowledge; flexible retrieval can facilitate the transformation of knowledge in different contexts (Roediger and Butler, 2011).

However, there are some important issues regarding the effectiveness of retrieval practice. One of these issues is that the effectiveness of the quizzes can be promoted by providing feedback (Roediger and Butler, 2011). In addition, the timing of online quizzes is an important issue which influences their effectiveness. In MOOCs, most quizzes are given immediately after the information has been provided, which according to Storm et al. (2010) is not as effective as employing delayed tests. On the other hand, delayed tests may result in learners forgetting the information they have previously learned. Therefore, it may be the case that immediate tests followed by later, repeated tests are the best method to encourage information retention; however, more research is required in this area.

### **3.6.3 Short Videos with Quizzes: Mastery Learning**

Du (2014) has claimed that the majority of MOOC platforms (such as edX, Udacity and Coursera) provide an opportunity for participants to achieve mastery learning because they



allow repeated study of interactive videos and numerous attempts at quizzes. The strategy of mastery learning can increase the likelihood of understanding the lesson before moving to the next one. This feature offers participants the opportunity to learn at their own pace, which can often have a significant impact on the learning outcomes. In addition, when describing a MOOC, De Waard et al. (2011a) list four interesting aspects which lead to mastery learning: the MOOC transcends time and place; it provides centralised resources for learners which are accessible in the cloud; it takes into account learners' abilities; and it stimulates knowledge construction. According to Morris (2014), MOOCs encourage learners to take a centred approach where learning occurs by sharing information and developing materials through web channels including social networks. Du (2014) claims that mastery learning by watching interactive videos in MOOCs is less cost-effective when compared with synchronous online courses taught by faculty. MOOCs could offer additional opportunities to develop deep understanding through valuable conversations about the materials that are accessible and appropriate for learners in different forms. Therefore, the use of short videos and quizzes in MOOCs should deliver opportunities for mastery learning, provided that corrective activities are also included so that learners can determine where they have made mistakes and make efforts to correct these misunderstandings.

#### **3.6.4 Peer- and Self-Assessment: Enhanced Learning**

Assessment is considered to be one of the most evident pedagogical benefits of MOOCs (Glance et al., 2013). It is usually employed to determine whether the learner can achieve an awarded certificate in MOOCs. Assessments predominantly exist in the form of quizzes, peer-assignments involving problem solving, or the creation of plans that provide evidence of learning outcomes. In the MOOC context, Sandeen (2013, p.11) argues that “assessment is less

about compliance than about supporting student learning outcomes and ultimately student success and attainment—directly in the center as it should be”.

Because of the large numbers of students involved in MOOCs, it is impossible for lecturers to follow up with every learner and review each assignment individually. Therefore, the design of MOOC assessments facilitates dealing with a massive number of participants by using either automated tests in the form of multiple-choice quizzes or peer-assessed tests (Glance et al., 2013; Daradoumis et al., 2013). The main concern with the utilisation of peer assessment in MOOCs is whether the results that come from peer marking are reliable and accurate in comparison with teacher marking (Glance et al., 2013). So far, when peer-assessment has been used in the MOOC environment, the results have generally been encouraging. For example, Lewin (2012, cited in Glance et al., 2013) demonstrates that data from a peer-assessed exam showed a high degree of correlation with the marks given by teaching staff, and similarly, Piech et al. (2013) report that average peer-assessed marks sometimes show a high level of agreement with those given by experts; however, these authors also note that there is room for improvement as some peer-assessed submissions differed significantly from staff-corrected marks. Indeed, it has been claimed that automatic or peer-assessments are more likely to be insufficient because learners need effective feedback and explanations of their learning achievements (Daradoumis et al., 2013; Chiappe et al., 2015), especially in fields such as programming. Piech et al. (2013) state that MOOCs have now become more widespread and therefore it is important to provide reliable grading and effective feedback for MOOC assignments. From my experience, some courses, such as *How to Write a CV*; *How to Write Academically* and *Programming*, necessitate the inclusion of feedback in order to explain specific problems with students’ answers and why something might be considered wrong. In these cases, automated feedback may not be sufficient, and the designer of a MOOC may need

to consider making improvements by developing an advanced system of Artificial Intelligence or by having more teachers in some courses to enhance students' learning.

Another concern is that MOOCs lack an effective user authentication process, which may lead to cheating, especially when the content of exams does not change (Daradoumis et al., 2013). This suggests that it is important to change the contents of assessments for every cohort in order to avoid cheating and plagiarism.

### **3.6.5 Short Videos: Enhanced Attention and Focus**

To optimise the conditions for mastery learning, as discussed above, the majority of MOOC platforms use short videos, allowing participants to control the pace, replay, pause and return to the content as they need to (Glance et al., 2013). These videos emulate the effects of individualised learning, and according to the research of Guo et al. (2014) the short length is the optimal time for maintaining attention. Guo et al. (2014) surveyed 862 videos from four edX courses offered in 2012; they found that shorter videos are much more engaging, and engagement usually drops sharply after six minutes. Another claim regarding the optimal duration of online videos is based on the length of videos at Salman Khan's Khan Academy (2012) – these videos are between 10 and 15 minutes, which the Khan Academy believes to be the optimal length to maintain learners' attention (Glance et al., 2013). Hence, it is recommended that MOOCs produce short videos: six minutes if possible, or not exceeding 10–15 minutes. This would, it is argued, increase participants' engagement (Guo et al., 2014) and lead to improved retention of learning and additional persistence on MOOCs.

However, Tobías et al. (2015) argue that using videos in learning requires many procedures, including examining the content and evaluating its consistency. These procedures take time, for example to select, analyse and design the video content, an additional burden that may

overload lecturers. This burden is highly significant since courses are free and open and universities must foot the bill entirely.

### **3.6.6 Online Forums and Activities: Peer Assistance**

MOOCs generally include an area where participants can interact with other participants, as well as with the tutors of the course. Kop et al. (2011, p.88) conducted a study on MOOCs, and their findings highlight the importance of making connections between participants and their peers, as well as between participants and facilitators. The authors conclude by stating that “meaningful learning occurs if social and teaching presence forms the basis of design, facilitation, and direction of cognitive processes for the realization of personally meaningful and educationally worthwhile learning outcomes” (Kop et al., 2011, p.88). This is also confirmed by Vygotskyian ideas as his widely established work argues that:

Knowledge is social in nature and is constructed through a process of collaboration, interaction and communication among learners in social settings. (Nassai and Swain, 2000, cited in De Waard et al., 2011a, p.7)

Balaji and Chakrabarti (2010) and Tobías et al. (2015) found that using online activities and forums had a positive impact on participants’ learning. The interaction between participants and their peers, as well as between participants and teachers, plays a significant role in building the requisite collaboration to understand the materials, build new ideas, share resources and experiences, answer participants’ questions, and provide support and guidance, especially for those who are experiencing a MOOC for the first time. In addition, Tobías et al. (2015) argue that learners usually receive effective feedback and support from their peers when they participate in forum discussions and social networks, and this has a great impact on students’ results and experiences.

Despite these assertions, Mason (2011) found that learners are often not engaged in online discussions when they do not perceive these discussions to be beneficial to them, for instance when they are busy and the discussion does not count for their grade or when they are worried about giving wrong answers and being seen as stupid by their peers. This highlights the importance of the lecturer's role in stimulating valuable discussions and monitoring the overall behaviour of the participants to ensure that everyone respects and appreciates each other.

These arguments in the literature have affected my research design. One of my main research interests is the effectiveness of the social experience that occurs via MOOC tools. Therefore, the focus of my third research question is considering the participants' perceptions of the social MOOC environment.

### **3.6.7 The Lecturer's Role and the Learner's Role**

Siragusa et al. (2007) suggest that online lecturers should undertake professional development programmes in order to improve their abilities to analyse their students' unique needs and design effective learning strategies. From this perspective, online learning defines the fundamental roles of educators. This concept is also discussed by Downes (2010), who suggests that educators should act as facilitators, supporters, designers, coaches, moderators and providers of technical support.

However, according to Ross et al. (2014), the role of the lecturer has been largely ignored in the literature regarding MOOCs to date, with three basic typologies emerging: (i) the distant academic celebrity, a highly qualified academic based in an elite institution, who transmits his/her knowledge via technological means, without being available to the participants in any dialogical way; (ii) an automated teacher, a set of automated processes which provides feedback to the learner, for example through the results of quizzes or the programming of tasks

according to the students' previous performance, and (iii) a co-participator and facilitator, whose role is not to transmit knowledge but rather to participate and facilitate discussions and activities around the topic while others who are more knowledgeable take on the teaching role (McAuley et al., 2010). Other researchers have commented on the multitude of roles the teacher has to adopt in MOOCs, for example outlining the trajectory of the course, acting as a host and as an instructor, and occasionally being a fellow learner or an emotionally engaged enthusiast (Ferguson and Whitelock, 2014). However, noted by as Ross and colleagues (2014), current descriptions of the lecturer's role in MOOCs do not fully address the complexity of teaching and the teaching context, and this is an area which requires further research, drawing on teachers' own experiences, in order to fully understand how the potential of MOOCs can be maximised.

On the other hand, online learning requires learners with a high level of self-direction (Kop et al., 2011). Stacey (2014, p.113–114) argues that the pedagogy of courses on the Udacity platform emphasises self-study; this is because each course on Udacity consists of units designed to provide instruction in the form of multiple short videos, extra materials, and weekly quizzes and homework, besides offering the opportunity for interaction in the forums (Stacey, 2014, p.113–114). Obviously, MOOCs are online and informal courses; thus, they are all designed to facilitate self-learning, especially since participants can take part in them whenever they like and they have the opportunity to choose materials in order to create their own paths for learning. MOOCs put the responsibility for the learning process in the hands of the learners themselves. Learners should have a high level of competency in this regard so that they can be autonomous in their learning and have the ability to manage their time and use technical tools effectively (Kop et al., 2011), especially because individuals presently have less time for learning and as a consequence they need to learn quickly in order to cope with the instantaneous

distribution of information via the Internet (Tobías et al., 2015), for instance reading the discussions in the forums.

### **3.7 Summary**

In this chapter, I reviewed and discussed the literature related to this study. I highlighted the major MOOC platforms and their goals, including Saudi and Arabic platforms. In addition, discussions on the key aspects of MOOCs that differentiate them from other online courses and the common types of these courses found in the literature have been discussed alongside the learning theories that apply to MOOCs as learning environments. Moreover, the characteristics of participants in MOOCs and the different learning paths they follow were presented. Finally, I discussed pedagogical foundations based on the most common MOOC design available at the time of this study.

Before, in the context of this study chapter, I explained the Saudi MOOC platforms in detail and their importance to Saudi people.

Reviewing the studies and exploring MOOC platforms, particularly in the Saudi context, demonstrates the importance of conducting further research in order to explore their implications for Saudi people. Generally, due to the recent emergence of MOOCs, studies that have discussed the effectiveness of their pedagogies and learning designs are very scarce and I was unable to locate any studies about the context of Saudi Arabia. The majority of studies relating to MOOCs have focused on participant retention, their motivations, and the tools they used. In addition, they have predominantly used quantitative methods; thus, their results are based on numbers with insufficient justifications. Therefore, I decided to look at participants' perceptions by using mixed methods in the context of Saudi Arabia in order to allow a broader lens on the findings that will hopefully contribute in both Saudi and non-Saudi contexts. It is

important to note that discussing the theoretical perspectives of learning in MOOCs led me to understand how the learning process occurs within MOOC communities. This helped me in formulating research questions which were suitable for learning in MOOCs and in selecting the proper data collection methods, which are explained in the next chapter. My study intends to focus on the relevance of MOOCs to Saudi lives, the effectiveness of teaching approaches, and the value of the social learning that can happen in MOOC environments. I would clarify that reviewing the literature and discussing the theoretical perspectives of MOOCs affected my thinking in analysing and selecting the themes of my findings.

In conclusion, the literature reviewed shows that MOOCs can be considered a global educational phenomenon that has grown rapidly as a result of the improvement of social networks and online applications. MOOCs can provide a useful experience in pedagogic autonomy as they provide an extension to support blended or flipped learning, offering plenty of space to share knowledge and access professional content regardless of individual's location, which gives an opportunity for democratisation (Tobías et al., 2015).

Morris (2014) suggests if MOOCs encourage learners' engagement and stimulation and help them to achieve their learning goals, the following must be considered:

- (1) Course design: This includes flexibility of navigation and accessibility.
- (2) Learning skills: This includes clearly defined learning goals with prerequisite knowledge.
- (3) Social learning: This includes providing numerous opportunities for participants to interact, communicate and collaborate with each other and with subject experts within the course.
- (4) Learning outcomes: This includes the methods of proper assessment and effective feedback.



## **CHAPTER 4: Methodology**

This chapter presents details about the methodology for this study. It includes a discussion of research aims and questions followed by a detailed description of the research design, the sampling and my positionality as a researcher. Finally, it describes the research instruments that were used to gather data, the data analysis and the ethical considerations.

### **4.1 Aims and Research Questions**

The main purpose of this study is to determine the cultural implications of MOOCs for Saudi participants by examining their perceptions of using MOOCs. In addition, the intention is to determine key factors that influence the use of MOOCs in Saudi Arabia and, based on these factors, the research also provides recommendations that could maximise the potential of MOOCs in this context.

I decided to examine cultural implications because I realised that there may be a correlation between learning and culture. This implies that if learning is influenced by culture then this affects the culture at the same time; there is a dynamic two-way relationship and it is different from one person to another. As I mentioned earlier (Chapter One, Section 1.4.2), culture is constantly changing and people reconstruct their culture when confronted by change that necessitates reactions, which in turn affects their culture. It is important to note that while it may be possible to provide an overarching impression of Saudi culture, it is not possible to pin it down completely as there are many things that will change and that differ for different people at different times. As described by Hammond et al. (2001, p.11), learning occurs in social and cultural contexts wherein culture influences individuals' knowledge and the experiences that they bring to the learning environment, the ways they communicate, their expectations about

how learning occurs, and their ideas about what is valued or worth learning. In addition, the Kingdom of Saudi Arabia identifies the general goals of education, which are:

To have students understand Islam in a correct and comprehensive manner; to plant and spread the Islamic creed; to provide the students with the values, teachings and ideals of Islam; to equip them with various skills and knowledge; to develop their conduct in constructive directions; to develop the society economically and culturally; and to prepare the individual to be a useful member in the building of his/her community. (UNESCO-IBE, 2011, p.2)

These goals confirm that culture can be developed and improved by learning, while considering the main values and principles of the society. Thus, it is clearly articulated within the Saudi Arabian curriculum that education in Saudi Arabia aims to prepare individuals for the modern world and help them to build and renew their communities. Therefore, it is important to understand the implications of MOOCs as educational experiences for the Saudi population.

It is important to highlight that although there are cultural similarities between Saudi participants, there are also cultural differences. For example, the main language of Saudi people is Arabic and therefore the culture tends to be Arabic and the majority of people are more familiar with Arabic courses. However, it is also important to note that there are other Saudi people who experienced their academic study through a different language, which may lead them to prefer learning in the same language as their academic study. Nevertheless, Saudi perceptions about learning via MOOCs differ amongst individuals and this is affected by their individual culture. As a result, every individual in Saudi Arabia will have his or her own expectations and hopes regarding MOOCs based on his or her previous educational experiences and needs. The culture of every Saudi individual that is created and develops over time by continuous and accumulated experiences is not necessarily identical or similar to that of other Saudi people due to differences in knowledge and experiences. Because learning impacts peoples' cultures and is simultaneously affected by their cultures, the main question of this

study is: ‘To what extent are MOOCs culturally relevant to Saudi Arabian users, from learners’ perceptions?’

As MOOCs are relatively new phenomena, there is little research in this area and I have found no studies specifically investigating Saudi participants’ perceptions of these courses and their implications for their cultures. It could be argued that the number of research studies that discuss the extent to which MOOCs may meet our demands and tackle our problems is inadequate. Bartolomé and Steffens (2015) suggest that there is scant empirical research that discusses the effects of MOOCs, and Vivian et al. (2014) note that, as a result, many educators do not perceive the effectiveness of MOOCs and how MOOCs could be designed to address certain challenges such as professional development. Although there is no consensus on the quality standards of MOOCs, it is important to discuss the issue of quality standards in order to avoid using MOOCs that have no concern except generating revenue (Haggard et al., 2013). Therefore, the research into MOOCs and how they can be effectively used in different contexts and for different purposes is a research priority if they are to continue being implemented.

After considering previous studies and to answer the main question that aims to investigate Saudi participants’ perceptions of MOOCs and the implications for their culture, I have also formulated subsidiary questions:

- (1) What are Saudi participants’ perceptions of MOOCs in terms of the impact on their lives?
- (2) What are Saudi participants’ perceptions of the pedagogy and learning design of MOOCs?
- (3) How do Saudi participants perceive the social MOOC environment?

## 4.2 Research Design

This research involves studying human beings' perceptions about social phenomena, which situates it as social science research. Social science research can be defined as follows:

The formal systematic application of the scientific method to the study of social problems. (Gay, 1981, p.6, cited in Wellington and Szczerbinski, 2007, p.10)

MOOCs are an educational environment; thus, research in MOOCs is usually a kind of educational research, defined by Stenhouse (1984, cited in Wellington and Szczerbinski, 2007, p.11–12) as systematic activity that aims to provide new knowledge or add to the existing understanding of knowledge, which would be helpful in improving the effectiveness of learning. Furthermore, Lodico et al. (2010, p.9) confirm that educational research has been used since the establishment of formal education in order to improve education and to understand the effectiveness of education in different situations. Generally, as illustrated by Cohen et al. (2011, p.4), such research has three distinguishing characteristics: (1) research should be carried out in systematic and controlled operations based on the inductive-deductive model; (2) research is empirical because it needs experience to ensure its validation; and (3) the procedures and results of research are open to scrutiny of fellow professionals in the case of finding anything wrong or mistakes. Thus, research is considered to be self-correcting.

I used the induction approach in my research procedures. This led me to collect data from surveys, observations and in-depth interviews in specific contexts before generating the hypothesis after analysing the results to achieve generalisation. The inductive approach usually refers to the 'bottom-up' approach, in which the researcher observes the phenomenon systematically and then searches for appropriate patterns or themes; from the analysis of those themes, the researcher develops a generalisation (Lodico, 2010, p.10). Each research project should have a design that works as an action-strategic framework, which presents a bridge between the research questions and the research execution or implementation (Blanche et al.,

2006, p.34). This means that the research design becomes a plan that the research should follow to achieve the results and analyse them.

#### 4.2.1 Overview

According to Blanche et al. (2006, p.37), while designing the research the researcher should make decisions in four dimensions, including: (1) the research purpose, (2) the theoretical paradigm that informs the research, (3) the context in which the research is carried out, and (4) the techniques of collecting and analysing the data in the research (see Figure 4.1 below).

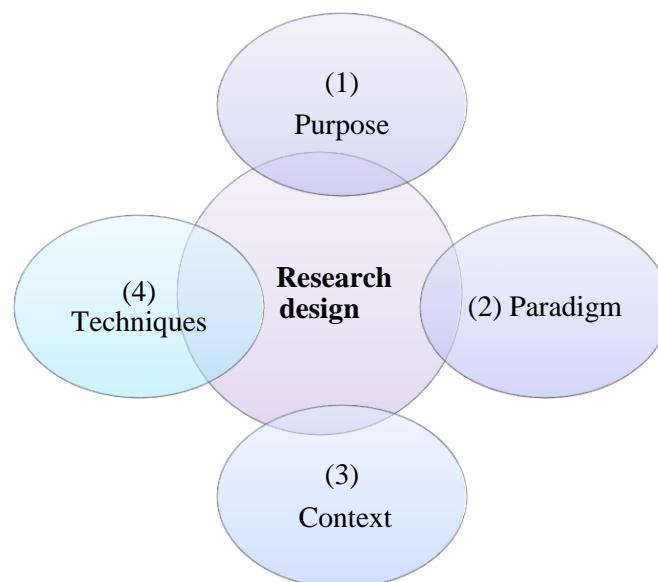


Figure 4.1: The Four Dimensions of Decision Making in Research Design (Blanche et al., 2006, p.37)

The centre of the research design is called the 'paradigm', which is a system of interrelated ontological, epistemological and methodological assumptions (Blanche et al., 2006, p.40). Paradigms reflect individual beliefs, assumptions and concepts. Thus, a paradigm is a comprehensive belief system, framework or worldview that guides practice and research in the field (Willis, 2007, p.8). In this sense, paradigms create research questions and select a suitable methodology that could explain or solve the problem of a certain study.

Dunne et al. (2005, p.14) refer to ontology as the nature of being and how things are in reality, which is translated by the researcher into the question: ‘what is the nature of the social?’ However, the nature of reality cannot be the same for different people as Cohen et al. (2011, p.33) state that while beliefs and values are socially constructed, these beliefs and values are shaped by multiple politics and interests that cause the privileging of some notions of reality while under-representing others. In addition, Mertens (2015, p.18) argues that because reality is socially constructed, it is possible to find multiple mental constructions from different people regarding a particular concept that might be in conflict with each other, as well as the perceptions of reality, which may change throughout the process of the study. This means that the researcher’s interpretations about the data discovered could change as the knowledge is reconstructed based on a new understanding of the data or in the case of finding more explanations about the reality of the research data. Therefore, constructivist researchers should be aware of their responsibilities in rejecting the notion that there is an objective reality, instead understanding the multiple social constructions of knowledge and their importance (Mertens, 2015, p.18) from the views of the participants in the study. In addition, Creswell (2003, p.8–9) believes that constructivist researchers recognise that their cultural backgrounds and historical experiences shape their interpretations and therefore interpret the meanings or understandings that others have regarding the phenomenon.

The main objective of this study is to explore learners’ perceptions about using MOOCs in Saudi Arabia. I expected multiple views and interpretations about the reality of using MOOCs in Saudi Arabia from the participants as their perceptions are socially constructed (this is explained in Chapter One, Section 1.4.1). Because the participants’ perceptions are socially constructed, their perceptions varied due to the influence of many factors. In my study, the participants’ perceptions about MOOCs were influenced by their previous experiences, especially with online learning, their interests (about the learning materials and the design of

the course), and their cultural backgrounds (which, as explained in Chapter One, Section 1.4.2, are constantly changing through the knowledge and experiences they gain). In addition, the attitudes and beliefs of other individuals on their courses affected their perceptions regarding the social environment in MOOCs. As a constructivist researcher living in Saudi Arabia, I was able to understand the interaction among learners and the historical and cultural settings of the Saudi participants – these aspects are considered to be the main focus for constructivist researchers (Creswell, 2003, p.8).

Dunne et al. (2005, p.14) state that ontology is strongly linked to epistemology, which refers to “the nature of our claims to know things about ourselves and the world and how we justify those claims”. Furthermore, Mertens (2015, p.11) defines the basic belief of epistemology as the nature of knowledge and the relationship between the researcher and what would be known. This means that epistemology is concerned with how knowledge is acquired, validated and justified. Thus, epistemology argues that it should justify any claim based on the way that it was arrived at (Scott and Usher, 1996, p.11). As a researcher, I became responsible for figuring out the main MOOC platforms in Arab countries that have been employed by Saudi users. I was able to immerse myself in the Saudi MOOC environments in order to understand these worlds and how people usually behave. My experience in learning different MOOCs helped me in understanding participants’ views; however, I tried to be objective by providing different justifications about the knowledge I acquired. My positionality is discussed in further detail in Section 4.7.

As afore-mentioned, ontology and epistemology are connected together with so-called methodology to form the research paradigm. The *Shorter Oxford English Dictionary* defines methodology as the “science of method” (Wellington and Szczerbinski, 2007, p.33), while Wellington (2015, p.33) provides more interpretation of methodology as “the activity or

business of choosing, reflecting upon, evaluating and justifying the methods you see". Thus, methodology aims to:

Describe and analyse methods, throwing light on their limitations and resources, clarifying their suppositions and consequences, relating their potentialities to the twilight zone at the frontiers of knowledge. (Kaplan, 1973, p.10, cited in Wellington and Szczerbinski, 2007, p.33)

From this explanation, it can be said that methodology is considered to be the core of any research as it distinguishes one research project from any other. Methodology includes the appropriate design for the study, the methods that are used to collect the data in order to answer the research questions, the population and sampling that the study applies to, and finally the way in which the researcher analyses the results. As emphasised by Wellington and Szczerbinski (2007, p.57), it is important to remember that the first step of the research process should always be the framing of research questions. This is because by clarifying the research questions the researcher is then able to select the most appropriate methods for addressing these questions. In addition, each project can be exploratory, explanatory or descriptive, depending on the research objectives. I used exploratory and descriptive methodology in this research, which enabled me to describe the MOOC environments that are used by Saudi participants and to look for in-depth insights about Saudi users' perceptions of MOOCs. This gave me a greater understanding about how Saudi participants use MOOCs and what MOOCs mean to them in their lives, as well as understanding factors that affect the use of MOOCs. An exploratory methodology allowed me to collect the data, explain and analyse the results, and then explore more in-depth data in order to help me in the conclusion.

In social science research, there are several types of paradigm that researchers may use depending on the phenomenon under study and the nature of the research. Two of the most common paradigms can be categorised as the normative paradigm (positivist) and the interpretive paradigm (anti-positivist). Wellington (2015, p.26) argues that the positivist



researcher aims to seek 'hard' quantitative data and generalisations, and it is believed that data generated using positivist principles is value-free, objective and independent of the knower. However, Cohen et al. (2011, p.14) argue that positivism faces formidable criticism from the best philosophers in Europe as well as scientists, creative artists and social critics. Wellington (2015, p.26) believes that it is completely false to view modern science as positivist for many reasons: (1) the variables in modern science cannot always be clearly identified and controlled; (2) it may be impossible to determine and successfully clear the relationship between cause and effect; and (3) modern science is rarely value-free and objective. Phothongsunan (2010, p.2) argues that the interpretive paradigm researcher focuses primarily on qualitative data and aims to explore meanings that are placed by participants into the social situations that are under investigation. Cohen et al. (2011, p.17–18) differentiate between these two paradigms using several concepts: first, the interpretive paradigm mainly endeavours to understand the subjective world of individuals' experiences, and thus the interpretive paradigm focuses on understanding the actions that might be thought of as meanings with behaviour (p.17) rather than causes (p.46); alternatively, the normative paradigm seeks causes and tends to explain the cause of behaviour (p.46), where the behaviour refers to responses that lie in the past. Another issue mentioned by Cohen et al. (2011) relates to theory (p.18). Theory in the interpretive paradigm emerges and arises from particular situations based on the understanding of human behaviour; thus, theory should follow the research but not precede it. On the other hand, theories in the normative paradigm are devised as general theories of people's behaviour; the researcher tries to validate them and show the reality of their combination, or how they could be changed to be more effective, by using complex methodologies (p.18). This means that rather than using qualitative data to test a theory, the interpretive researcher develops a theory by using that data (Phothongsunan, 2010, p.2–3).

However, Lodico et al. (2010, p.16) confirm that mixed methods research is most commonly used by pragmatic researchers who use both quantitative and qualitative methods in a creative way to fully answer the research questions, and they utilise theories and hypotheses as useful tools that help in educational improvement (p.17). The pragmatic approach attempts to mix the normative and interpretative approaches; thus, Cameron (2011, p.101) defines pragmatism as a practical approach used in a problem that has strong associations with research and that triangulates quantitative and qualitative data. Pragmatism simply helps in identifying what works in a particular context and it does not concern whether the research describes a socially constructed world or single or multiple realities (Lodico et al., 2010, p.16). Pragmatism argues that truth and reality may have both singular and multiple versions, sometimes objective or subjective, sometimes scientific or humanistic (Cohen et al., 2011, p.23). This means that the pragmatic approach involves:

Accepting the limitations of a realist perspective of the world by maintaining that such knowledge is provisional and revisable, but nevertheless seeking to establish as consistent a picture as is possible with the tools available, and crucially requiring a critical or reflexive approach to adopted by the research. (Algahtani, 2011, p.105–106)

Therefore, I employed the pragmatic paradigm, which appears to be the most appropriate in relation to the mixed data collection methods and the aims of my research to provide a balanced, rich and detailed description of Saudi learners' perceptions about using MOOCs in Saudi Arabia.

#### **4.2.2 Mixed Methods**

In educational research, there are three predominant methodologies that tend to be discussed most often: quantitative, qualitative and mixed methods (Harwell, 2011, p.148). These three approaches to research methodology have been clarified by Creswell (2003, p.18) and the first

is the *quantitative* approach, where the researcher employs post-positivist claims to develop knowledge (such as thinking of cause and effect, using measurement and observation, or testing theories) and collect data that produces statistical results by using predetermined instruments such as surveys and experiments. Thus, Devetak et al. (2010, p.82) claim that quantitative research predominantly aims to obtain results that are reliable, valid, precise, exact, objective and measurable. Wellington and Szczerbinski (2007, p.19) state that the perspective of the quantitative method is searching for generalisable and objective knowledge.

Secondly, Creswell (2003, p.18) defines the *qualitative* approach as one which often develops knowledge claims based on constructivist perspectives (such as the different meanings of people's experiences) or participatory/advocacy perspectives (such as political or change oriented) or both. This data becomes open-ended and is used by the researcher to develop themes. Devetak et al. (2010, p.82) believe that the researcher is the crucial instrument in qualitative research because the data is more pictorial and verbal in nature as opposed to numerical. Thus, the researcher is involved directly in the environment in order to understand the object of the research.

Finally, and thirdly, the *mixed methods* approach sits between the previous two approaches and is clarified by Creswell (2003, p.18) as the approach where the researcher uses pragmatic grounds on which to base knowledge claims (such as consequence-oriented) and the data collected to best understand the research problems. Thus, it could be collected simultaneously or sequentially; however, data collection should involve both numerical and text information to produce database responses that contain both quantitative and qualitative information (p.20).

Harwell (2011, p.152) argues that there are disagreements regarding too many aspects of mixed methods, such as 'when mixing should occur' (for example, at the time of designing the study, at the point of data collection, during data analyses, and/or during the interpretation). However, there are three general strategies for mixing methods, as illustrated by Creswell (2003, p.16).

These are either: (1) sequential procedures, in which the researcher begins with one method and then elaborates the findings or expands them by using another method (for example, the researcher may begin, for exploratory purposes, by using a qualitative method and then following up with a quantitative method using a large sample in order to generalise the results to a population, or alternatively, the researcher may start with a quantitative method to test theories or concepts before following up by providing detailed explorations about certain cases or individuals by using a qualitative method); (2) concurrent procedures, in which the researcher gathers both quantitative and qualitative data at the same time and then integrates the information to provide a comprehensive analysis of the overall results; or (3) transformative procedures, where a theoretical lens is used by the researcher as an overarching perspective in the research design to provide a framework for the topics, data collection methods, and the outcomes or changes expected by the research, while the data within the lens contains both quantitative and qualitative data collected by using a sequential or concurrent approach. Harwell (2011, p.153–154) argues that sequential exploratory design is the opposite of sequential explanatory design and is employed to enhance generalisability with quantitative data that promotes and complements qualitative results. According to Cohen et al. (2011, p.26), the advocates of mixed methods suggest that the mixing occurs in all stages of the research process: (a) philosophical foundations, worldviews, ontologies, and epistemologies; (b) research aims and questions; (c) research methodology, design, instrumentation, data collection, and sampling; (d) analysis of the research data; (e) the data interpretation; and (f) reporting the research results and conclusions. This highlights that mixed methods research requires the full integration of quantitative and qualitative methods, even in the research purposes and questions; essentially, the integration should address both types of data rather than just one type (Cohen et al., 2011, p.24).

Indeed, Harwell (2011, p.160) concludes by saying “the time to fully embrace mixed methods designs has come”. Wellington and Szczerbinski (2007, p.20) state that most social research yields methods that contain both quantitative and qualitative data. Many researchers have provided different arguments about the benefit of mixing methods in a single piece of research. For example, Harwell (2011, p.148) argues that using mixed methods in the research design could offer a promising path that would support rigorous inquiry of educational ideas. Devetak et al. (2010, p.83) confirm that using mixed methods in science education research could counter the arguments against qualitative research – or example, the idea that research is only valid if it is objective and if it is possible to generalise findings obtained from a sample to the research population. Moreover, Symonds and Gorard (2008, p.4) assert that the central element of each mixed methods definition is the use of both quantitative and qualitative approaches, where the paradigms, methodology and methods are strongly linked, and this triangulation provides higher-quality data than any single approach. These authors also believe that mixed methodologists are able to capitalise on the strengths of both qualitative and quantitative paradigms, while offsetting their weaknesses (2008, p.3). Thus, when this qualitative information combines with quantitative information, it provides more understanding of the problem under investigation. Cohen et al. (2011, p.25) state that mixed methods research can address many question types, including those that might produce numerical as well as qualitative data, as well as how or why that qualitative data was produced.

In addition, Lodico et al. (2010, p.13) believe that many researchers use mixed methods to help them in gathering a breadth of data as well as providing validation for their results. This concurs with the opinions of Almalki (2016, p.288), who argues that mixed methods research is suitable for any given project because of its potential to provide a greater depth and breadth of information that may not be possible utilising any single approach. Almalki (2016, p.288) states that there is evidence that researchers using the mixed methods approach have a greater scope

for using both numbers and words in research that discusses educational issues that would benefit society as a whole and educational establishments in particular. Therefore, he thinks researchers feel most comfortable with mixed methods approaches because they seem to be eminently practical and allow researchers to address issues by using many types of data (2016, p.293).

Moreover, Greene et al. (1989, p.259, cited in Harwell, 2011, p.152) summarise five reasons for the integration of quantitative and qualitative research in mixed methods. These reasons include triangulation, which can test the consistency of findings in mixed methods and lead to convergence and corroboration of the results (p.152). However, Richardson (2000) develops an alternative understanding for methods of 'triangulation' using the concept of 'crystallisation'. This is because Richardson believes that in mixed methods, we do not triangulate a rigid and fixed truth of an object; rather, we crystallise by combining and constructing multiple points of view and multiple ways of understanding that represent the variety of participants' experiences (Ellingson, 2008). Richardson (2000) argues that an interpretive approach accepts multiple views of the world and these views have more than three sides (as in triangulation). Moreover, triangulation tends to advocate using multiple methods in order to increase the chances of measuring an absolute reality. I found Richardson's idea of crystallisation to resonate more appropriately with the use of mixed methods since this study investigated participants' perceptions, which cannot be seen as static and stable truths; I explored a range of viewpoints to get a sense of the different participants' experiences of MOOCs which are multiple and varied. The second reason for using mixed methods that Greene et al. (1989, p.259, cited in Harwell, 2011, p.152) mention is to provide opportunities for complementarity in which the results of data from both methodological approaches are used to assess overlapping phenomena that have distinct facets. In addition, mixed methods enable development, which means that the results from one paradigm (e.g., quantitative) could

influence the subsequent methods or steps in the research (p.152). Furthermore, through initiation, the results from one method stimulate new directions of research or challenge other results (p.152). Lastly, using mixed methods helps in expansion by clarifying results or adding richness to research findings (p.152). In brief, mixed methods could provide more illustration, clarification, elaboration, enhancement (Greene et al., 2008, cited in David and Sutton, 2011, p.296) and verification of the results.

However, there are some challenges and claims regarding the results produced by the mixed methods approach. For instance, Creswell (2003, p.23) believes that mixed methods researchers might take extra time on their projects because of their need to collect and analyse both quantitative and qualitative data. In addition to the time issue, Creswell and Plano Clark (2011, cited in Almalki, 2016, p.293) emphasise that mixed methods researchers are required to deal effectively with the resources and manage their time and effort, especially when they are working alone. In addition, Symonds and Gorard (2008, p.1) believe that although the mixed methods approach is a dominant design for educational research, the “concept of mixed methods has logical underpinnings rooted more in philosophy than in empirical reality”. This may be the result of research that presented poor mixed methods research as the researchers had not considered the reasons for using both quantitative and qualitative data or how they should use both types of data to combine the findings in order to provide the best understanding of the research problem. Symonds and Gorard (2008, p.2) found that some theorists of single methods seem to be unconvinced about the benefits that can be gleaned from combining different data types or different methods, and they believe that using a single data type provides a more coherent version of reality. However, Fetters (2016, p.9) states that modern research using mixed methods is moving beyond the collection of quantitative and qualitative data to the intentional, well-thought-out and planned specific integration of procedures in a single research. In addition, Symonds and Gorard (2008, p.17) distinguish between the terms

‘multiple methods’ and ‘mixed methods’ as multiple methods can refer to studies that employ different methods but report their results separately, whereas mixed methods refer to studies that integrate multiple techniques purposefully in order to obtain a final dataset. In addition, mixed methods have been used by many researchers, such as Wellington and Szczerbinski (2007, p.20), who produced a book based on the assumption that the quantitative method is complementary to the qualitative method.

Despite the prominence of mixed methods, Almalki (2016, p.289) asserts that researchers have a critical role in identifying what research they are undertaking as well as why, when and where, and with whom they are performing a specific inquiry. Harwell (2011, p.148) assumes that choosing a research design or making changes to any elements within the design should be driven by the research questions and identifying the research design has an important impact on communicating information about the key features of the research. I used both qualitative and quantitative methods, which makes my research a form of mixed methods research. I conducted mixed methods research because I agree with Creswell (2003, p.21), who provided three considerations that affect the researcher’s choice regarding the most suitable approaches: the research problem; the researcher’s personal experiences; and the research audience(s). In mixed methods research, it is vital that the researcher is familiar with both qualitative and quantitative methods and understands how to combine them. Creswell (2003, p.5–6) also argues that it is important to think about the strategies of inquiry that inform the procedures as well as the methods of data collection and analysis.

In this research, I collected diverse data, including numerical and verbal information, because I agree with Reams and Twale’s (2008, p.133, cited in Cohen et al., 2011, p.22) statement that mixed methods are “necessary to uncover information and perspective, increase corroboration of the data, and render less-biased and more-accurate conclusions”. Thus, implementing a mixed methods approach would be the best way to understand Saudi participants’ perspectives



about using MOOCs. I began by posting a survey in three MOOCs that have a large number of Saudi participants, and at the same time, I made observations on the course I have taken in the past and conducted open-ended interviews with several participants who answered my survey to obtain more details about their views on using MOOCs. By doing this, I followed concurrent procedures of the mixed methods approach, which helped me to develop detailed views of the meaning of MOOCs for Saudi participants. The quantitative and qualitative datasets were used to complement and enhance each other.

I utilised three basic methods in this study for data gathering: survey, observations, and in-depth interviews. I collected numerical information from the MOOCs platform, such as the total number of enrolments and total number of participants who passed. The survey contained closed-ended questions, providing me with numerical information from a large number of participants, and two open-ended questions, which allowed me to understand participants' expectations about MOOCs. I conducted 20 in-depth interviews with participants who had answered my survey, providing me with detailed information about their perceptions of MOOCs. During my observations, I learned by using materials provided, engaging within the course environment, and watching the conversations between participants and the teacher.

In conclusion, it has been argued above that many writers debate the respective advantages and disadvantages of mixed methods research (for example, Creswell, 2003; Harwell, 2011; Lodico et al., 2010) and that some question whether there is merit in using mixed methods. However, I decided to use a mixed methods research for the following key reasons: depth and breadth of knowledge; the possibility to 'stargaze' with mixed methods as explained by Langridge and Hagger-Johnson (2013); and the respective contribution to ontology and epistemology.

First, I agree with Almalki's (2016) argument that mixed methods research can provide greater depth and breadth of knowledge compared to the use of a single research method. Langridge and Hagger-Johnson (2013) point out that while there has been a polarisation in qualitative

versus quantitative research, the two approaches actually have much in common: both attempt to measure or record effects; both attempt to describe or explain processes that may be difficult to observe; and both produce data that is a simplified form of experience. Furthermore, Lincoln and Guba (1985) identified several evaluative criteria that contribute to trustworthiness of qualitative data. One of these criteria is credibility (discussed in Section 4.6) and the authors' argument is that using different data collection methods helps contribute to a research project's credibility.

The main purpose of this research is to investigate learners' perceptions of using MOOCs. In terms of epistemology, this could be achieved from either a positivist perspective (numerical data without subjective value) or a constructivist (subjective interpretation) point of view. I decided to employ research methods which would complement each other and give both points of view. Using mixed methods helped me to understand the general views of a large number of participants as well as obtain more details from many participants about their perceptions of MOOCs in terms of the impact of MOOCs on participants' lives, the pedagogy and learning design of MOOCs, and their perceptions of the social MOOC environment. The participants' general views would help stakeholders such as decision-makers in learning institutions to understand the general implications of using MOOCs in Saudi Arabia, and this enhance recognition the value of implementing these courses and their effects on Saudi participants' lives. For example, the numerical data obtained from the sentences about the participants' reasons for using MOOCs would highlight the importance of designing more courses that match the participants' goals in using MOOCs. In addition, the qualitative details that I obtained would provide more insights about the participants' needs and hopes, which could contribute to the development of better MOOC design to satisfy participants. The three research methods used in this research project (survey, observation, in-depth interviews) have been chosen because they contribute greatly to the underlying ontology: both the in-depth interviews

and the observations will highlight the socially constructed perceptions about the reality of MOOCs and how participants interpret these learning environments, while the survey responses can be statistically analysed in order to provide more numerical data. This theoretically allows the collection and comparison of information that could be considered absolute, such as how many MOOCs an individual has taken part in. Similarly, the epistemological questions of this research can be answered more fully by using the mixed methods approach. Since epistemology concerns questions regarding what we can say we know, we can look at this from two different viewpoints: subjective or objective. Therefore, the survey will allow for the collection of objective statistical data (on which I have a little influence as a researcher), while the observations and interviews will perhaps yield more detailed interpretations given my involvement in using MOOCs.

Finally, much of my own previous research has used quantitative methods. However, since the investigation of learners' perceptions of MOOCs potentially has practical implications for MOOC designers, I believe that the qualitative aspect of this research will provide valuable insights that could benefit the course designers. Based on the above reasons, I chose the mixed methods research as opposed to a single method.

### **4.2.3 Summary**

The previous sections have provided details on the research paradigm, including its ontology, epistemology, and methodology. I utilised a pragmatic paradigm of mixed methods, which appears to be the most appropriate for answering my research questions. I highlighted the impetus of mixed methods and shared some justifications for using this kind of approach in my research, and I also explained how the mixing performs in the research. In addition, some of the benefits and challenges involved in using mixed methods have been discussed as described

in the available literature. However, it is important to concentrate on the quality of the research and how to address the research questions by choosing a suitable research methodology and utilising it in an appropriate manner. I designed Figure 4.2 below in order to visually represent the data collection timeline as an overview of all the methods used in this study to gather the required information. Further details about the conducted methods will be illustrated in the following sections.

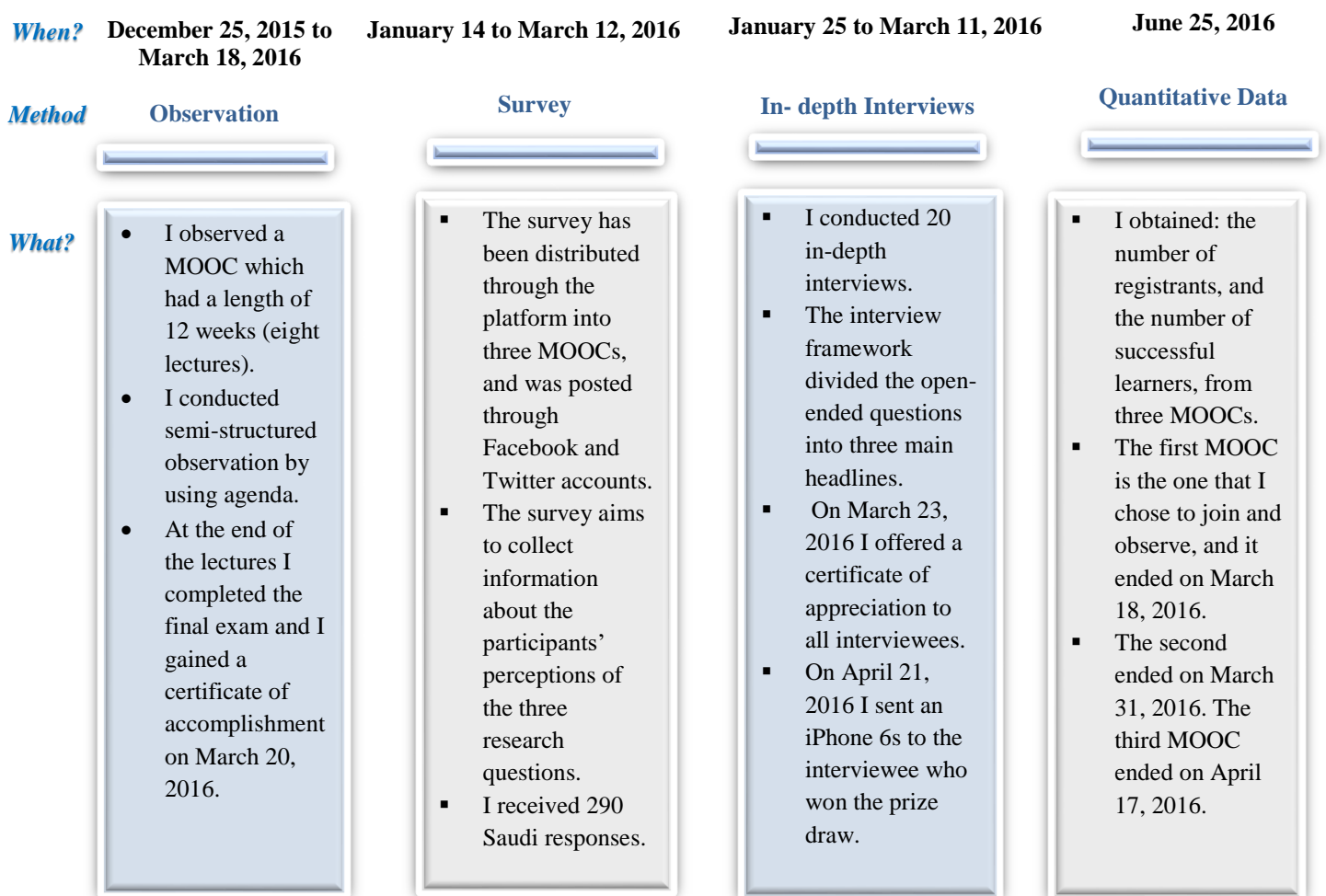


Figure 4.2: Data Collection Timeline

### 4.3 Gaining Access to MOOCs Platforms and Obtaining Informed Consent

First of all, I thought it would be more helpful to distribute the survey to Saudi learners who have completed at least one MOOC on different platforms; thus, I contacted the most common platforms used by Saudi users and asked them to send my survey to their participants. I attached a formal letter from my supervisor as proof of my requirements (see Appendix A) and I attached the information with the consent form mentioning the particular name of each platform. In this respect, Cohen et al. (2011, p.82) explain some elements that the researcher could include in the information letter, such as identifying the research aims; the research design, methods, and procedures; the sample nature and size; the activities to be observed; the observational needs; the main participants to be interviewed; the disruption degree envisaged; the time involved; arrangements to guarantee data confidentiality (if necessary); the tests and how they are to be administered; the feedback role and how to best disseminate the findings; the overall research timetable; and finally, whether assistance will be required during the research administration or organisation. For this reason, I included most of these elements in the information letter and consent form that I sent to the platforms (see Appendix B). One of these platforms is American, another is Jordanian, and two are Saudi platforms. The American platform failed to reply to my enquiry, while the Jordanian platform gave the following response:

I am afraid we can't share this survey with our learners. We share surveys that are tightly related to [the name of the platform] and our offerings under our name :) You can give her a piece of advice on how to reach her audience, perhaps, by sharing it on a platform where Saudis discuss online courses and MOOCs or where there is listing of MOOCs.

One of the Saudi platforms responded with an apology for its inability to provide the service. The other Saudi platform agreed to allow me access to its MOOCs for observations; however, it could not send my survey to all Saudi participants who had completed its MOOC. Rather, it

posted my survey on the announcement boards of three MOOCs that have a large number of Saudi participants whilst also posting the survey on its Facebook and Twitter accounts. Everything posted on these announcement boards is automatically sent to participants' emails, so my survey was sent to the participants who jointly took these three courses.

In fact, it was not possible for this research to be conducted using different MOOC platforms. Although this could result in not providing a complete picture of all MOOC environments, many participants in this study have experienced MOOCs in different platforms. Thus, participants' perceptions in the survey and interviews provide different interpretations about their experiences with MOOCs. Despite the fact that the intention is for MOOC platforms to have similar pedagogy and learning design, many participants in this study sought to compare MOOCs they have completed even in situations where these MOOCs were in different platforms. Finally, the survey was available on social media and some people shared it and re-sent it, which resulted in a significant number of responses from individuals who are interested in MOOCs. The high number of responses from Saudi participants could enhance my research findings.

#### **4.4 Sampling**

McMillan (1996, p.86) defines the sample as a single element or group of elements from which we can obtain data about the group of objects. The sample in essence describes from whom the data will be collected. However, McMillan (1996, p.86) emphasises that the sample is also used to describe the characteristics of the sample or events and the sampling procedure – such as random sampling – is used to identify this sample.

In this study, participants were chosen via the purposeful sampling method in order to collect “information-rich cases for study in depth” (Patton, 2002, p.230). Purposive sampling is

sometimes referred to as judgment or judgmental sampling, and in this type of sample, the researcher selects the cases based on his or her knowledge and judgment in order to provide the best information for addressing the research purpose (McMillan, 1996, p.92). I established the following criteria: the participants would have to be Saudi and needed to have partaken in a minimum of one MOOC on the platform. In the foregoing section, I indicated that I used one of the Saudi platforms to obtain my data; I found this platform to be ideal because it allows participants of any nationality to enrol from any country around the world. In addition, lecturers on this platform were from different countries and provided courses in different fields and majors, which makes it competitive with foreign platforms, especially because ‘renowned world educational leader and MOOC evangelist’ Downes (as discussed in Chapter Three) is on the Saudi platform’s consultant team. Hence, this platform may reflect the real Saudi experience of MOOCs because participants interact with diverse people from different countries and nationalities, and the platform reflects the genuine MOOC environment.

In the first stage, data was collected via a survey posted on the announcements boards of three MOOCs with a large number of Saudi participants as well as the platform’s Facebook and Twitter accounts. The survey was available for answering from January 14, 2016 until March 12, 2016. The reason for closing the survey on 12<sup>th</sup> March was because I did not receive further responses in the last few days, and I think the number of responses was sufficient to learn the general pattern of MOOCs use by Saudi people. Although I obtained 631 responses during that period, some were from non-Saudi participants even though the information letter stated that the target group should be Saudis. Therefore, I excluded the non-Saudi responses and the number of survey responses from Saudi participants was 290.

I then emailed some of the Saudi survey respondents and sent an invitation for an interview. The interview data was qualitative, and in this case the sample number may depend on the “stopping point” at which data saturation occurs (Wellington, 2015, p.264). In other words, the

sample depends on the point at which no further new ideas, themes, or constructs are identified from the data. Wellington (2015, p.121) believes the final number for the research sample is heavily dependent on the purpose of the study, while Teddlie and Yu (2007, p.85) indicate that mixed researchers generate complementary databases that should include both deep and broad information about the phenomenon of the study. Thus, it may be the case that a smaller sample could provide more in-depth information in comparison to a larger sample. I conducted 20 in-depth interviews that lasted about 40–60 minutes, and this provided appropriate, in-depth qualitative information about Saudis’ perceptions of MOOCs. However, the interview sample was diverse Saudi individuals living in different cities with differing occupations, qualifications, genders, and ages. Table 4.1 illustrates the number of Saudi participants in this study.

Table 4.1: Sample Number Obtained in the Survey and Interviews

Method	Number of Female	Number of Male	Total
Survey	195	95	290 Saudi participants
In-depth interview	12	8	20 Saudi Participants

Further explanation about the characteristics of the sample will be presented in the following chapter.

#### **4.5 Data Collection Methods**

In this section I highlight and explain the instruments that have been used in this study. According to Wellington (2015, p.108), the first step in the research process should always be to frame the research questions and then to select the methods. Therefore, I selected methods that could provide me with the best depth and breadth of information for understanding Saudi learners’ perceptions of MOOCs and that were most appropriate for answering the research



questions. Obviously, some research questions require more than one method and this decision should be made in the planning stage (Wellington, 2015, p.108).

In light of the foregoing discussions in this chapter, I employed three methods: surveys, in-depth interviews via Skype, and observations. These different forms of data were subsequently analysed to provide a rich narrative or description of the culture and community under investigation. I used surveys to obtain extensive information from a large number of Saudi learners who participated in MOOCs; 290 survey responses were gathered from Saudi learners enrolled in different MOOCs. In order to obtain richer data, I then sent requests to 49 of the survey respondents asking if they would agree to an in-depth interview (21 female and 28 male). However, just 20 of them replied and agreed to my request for an interview (12 female and eight male). In addition, observations were also utilised in this research approach in order to help me explore the learning context of the research sample, discover possible missed elements in the survey and interviews, and cross-check the information. Furthermore, I was able to collect information about the number of registrants and the number of successful learners in three MOOCs, which was provided to me by the platform support team after the end of these courses. This quantitative data about the demographics of the participants that I obtained from the survey provided insights into the MOOC context. Table 4.2 below summarises the data collection methods.

Table 4.2: Data Collection Methods Summary

<b>Observations</b>	<b>Survey</b>	<b>In-depth interview</b>	<b>Quantitative data of three MOOCs</b>
MOOC (has eight weeks)	290 responses from Saudi learners	20 interviews	<ul style="list-style-type: none"> <li>• the total number of registrants</li> <li>• the number of successful learners</li> </ul>

It is worth mentioning that for ease of communication with the participants, I translated the survey and conducted the interviews in Arabic. However, I translated some important elements of the data from Arabic into English and I analysed all of the data in English. These translations were discussed with and checked by an expert in Arabic–English translation to ensure the translation is as close as possible to the original meaning in Arabic. This process is crucial for the research because of the cultural differences between the languages, which requires finding the most appropriate match for phrases and grammar (Algahtani, 2011). However, there are some Arabic words that do not have an exact translation in English, so this is one of the problems in this kind of research.

The following section explains each method in detail, including the procedures followed to obtain the data.

#### **4.5.1 Observations**

Observation is one of the most common methods used in social science research, and Cohen et al. (2011, p.456) believe its distinct feature is that through observation the researcher can gather data in a real-life setting. Kawulich (2005, p.3) confirms that observation is a useful research method in a variety of ways. For example, observation enables the researcher to understand and learn about the activities that participants use (Kawulich, 2005, p.2). In addition, observation enables the researcher to “see things that might otherwise be unconsciously missed, to discover things that participants might not freely talk about in interview situations, to move beyond perception-based data (e.g. opinions in interviews) and to access personal knowledge” (Cohen et al., 2011, p.456–457). Observation can also help the researcher gain a better understanding of the phenomena and context of the study (Kawulich, 2005, p.4). However, observational findings are heavily reliant on the particular researcher’s

interpretations of the data and as a result they may be influenced by the researcher's particular biases and perspectives (Ary et al., 2014, p.19). This issue is explained by Cohen et al. (2011, p.456), who indicate that observation depends on when, how, where, and for how long and for how many elements the researcher observes. Therefore, it would be helpful to use various measures and to spend a lot of time in the field to be able to collect a range of viewpoints. In addition, researchers should take care to distinguish between actual observations and the interpretations of or thoughts about those observations to enable the readers to understand the complete picture.

Using observation has enabled me to better understand the MOOC pedagogy used by the participants, experience the learning activities, and check for some elements discussed in the interviews. I was able to read the participants' expressions of feelings about the course and observe how they interacted and communicated with both the lecturer and with each other, including the topics that they discussed and how they expressed their opinions.

Driscoll (2011, p.160) states that there are two common ways to observe people: participant observation and non-participant observation (unobtrusive observation). While participant observation requires a researcher who interacts and engages within the participants' community, the researcher in non-participant observation records participants' behaviour without needing to interact with the participants (Driscoll, 2011, p.160). Wellington (2015, p.169) confirms that "participant observation is difficult to achieve". Although participant observation is a common method in all social research (Driscoll, 2011, p.160), non-participant observation could allow the researcher to "avoid being involved in the situation under assessment in order not to influence it" (Alebaikan, 2010, p.136). I chose to be a participant observer in order to fully understand the MOOC that I observed, including the materials provided, the discussions, types of assessments, and time required for learning; hence, I completed the course and received a certificate of accomplishment. However, I solely observed

the weekly discussions without participating in them to avoid bias and influencing the participants to do something they might not have thought about otherwise.

Another issue about participant observation is how to contact the participants and whether or not obtaining consent is feasible for the study or if informed consent is required (Driscoll, 2011, p.161; Markham and Buchanan, 2012, p.5). Although gaining consent from observed participants is important in most educational research and participants must volunteer to be observed in research, Driscoll (2011, p.161) argues that “getting participants’ consent may be next to impossible” in some cases, and “it is acceptable to not let participants know you are observing them” (p.160). She explains that these cases include conducting studies in public places where there are many people passing through the location, for instance observing people in an airport or a campus food court; thus it is not practical to get their consent. However, she confirms that in these cases, the data should be anonymous to avoid violating people’s privacy. Markham and Buchanan (2012, p.7) point out that it is valuable to construct Nissenbaum’s (2010, cited in Markham and Buchanan, 2012, p.7) concept of contextual integrity when conducting research without consent. This highlights that in observation, “what people care most about is not simply restricting the flow of information but ensuring that it flows appropriately” (Nissenbaum, 2010, p.2, cited in Markham and Buchanan, 2012, p.7).

For the purpose and the nature of my research, I gained consent for observation from the owners of the platform rather than from all of the participants. This is because I intended to observe participants in MOOCs as groups rather than individual subjects, and these courses are open to all people everywhere, so anyone can pass through; this means these locations are reflective of a public area in nature. Indeed, I observed one of the MOOCs that the platform chose to post my survey on its announcements board because it had a large number of Saudi participants, many of whom participated in my survey and agreed to be interviewed. In addition, I expected that every day, hundreds of learners would be utilising the courses and it could be next to

impossible to contact massive numbers of people and get their consent. However, I protected their privacy by keeping the data anonymous and preventing violation of the participants' privacy. In addition, I did not use any of their quotes without their consent. Section 4.9 contains more explanation about the ethics followed in this study.

I employed semi-structured observation to describe and explore the use of MOOCs by Saudi participants. I observed the items that I defined in the agenda related to the research questions. Semi-structured observation requires gathering data through an agenda of issues; however, the main role of this agenda is to illuminate these issues in a less predetermined or systematic manner (Cohen et al., 2011, p.457). This means that semi-structured observation identifies the elements that will be observed while allowing the freedom to record more information should issues arise that are important for the study. For this reason, Cohen et al. (2011, p.457) emphasise that after semi-structured observation, the researcher should review the observed data before starting the interpretation. This might enable the researcher to discard data that is not related to the study and highlight the important issues.

In the beginning, I developed an observation agenda containing the elements I intended to observe in relation to my research questions. I then used this agenda for pilot observations at a MOOC on the same platform that I conducted my study on. After the end of the pilot observation, I revised my notes and made some changes to the agenda prior to the observation (see Appendix C). I then asked the platform support teams which of the upcoming courses had large numbers of participants in order to join one for observation. They recommended three courses, and I selected one and joined it before it started. The course length was eight weeks, with each week having a lecture that was often posted on the Friday. I recorded general information about the course. During my participation in the course, I wrote notes every week about the course material and design, tasks, number and types of learners' comments and discussions, and lecturer feedback. In addition, I realised how the participants inform news

about the course using email and announcements. I was able to observe how participants understand these types of courses from the questions they posted and how they introduced themselves and interacted with their peers. At the end of the lectures I completed the final exam, which gave me an appreciation of the difficulty and comprehensiveness of the questions.

#### **4.5.2 Survey**

A survey is typically an educational research method that is used to gather data regarding a particular point in a certain time; however, surveys vary in the level of complexity because they have different intentions so they can be used to describe the nature of current conditions, to identify standards that could be used to compare the existing conditions or to determine the existing relationships between specific events (Cohen et al., 2011, p.256). Siniscalco and Auriat (2005, p.4) assert that surveys can be used to collect data regarding facts, opinions, activities, perceptions, aspirations, attitudes and expectations. Generally, a survey is used to look at a wide range of issues in order to assess any generalised features (Cohen et al., 2011, p.256). In the educational field, the data collected by surveys can be classified into three groups, which are: (1) inputs to education (such as characteristics of learners), (2) learning and teaching processes, and (3) the education outcomes (such as student achievement and attitudes towards the learning environment) (Siniscalco and Auriat, 2005, p.4). When the researcher decides to employ a survey in a study, it is important to think about the design of the survey, the most suitable method of distribution to the sample, and the points that should be covered within it. Siniscalco and Auriat (2005, p.4) claim that, before designing the survey, it is important for researchers to ensure two main points: (a) that the required information from the survey is not already available from other sources (such as from research agencies or any statistics gathered by governments), and (b) confirm whether the required survey already exists either wholly or

partially. These two points are essential because they save the effort and time of the researcher and increase the opportunity to present novel ideas that could have a greater impact on society.

According to Thayer-Hart et al. (2010, p.4), “designing and implementing a survey is a systematic process of gathering information on a specific topic by asking questions of individuals and then generalising the results to the groups represented by the respondents”.

This process includes five distinct steps which are clarified in Figure 4.3.

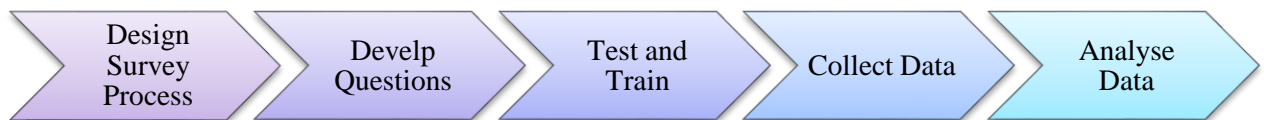


Figure 4.3: Process of Designing and Implementing a Survey (Thayer-Hart et al., 2010, p.4)

When the researcher decides to employ a survey, it is important to consider many points regarding the design and layout. These are summarised by Wellington and Szczerbinski (2007, p.98-99) and include the following: (a) writing a cover letter that contains a brief explanation of the research purpose, clear instructions about how to answer the questions, and full assurances of confidentiality; (b) presenting the survey with a clear and attractive layout that has a clear structure and adequate space for answering the open-ended questions and providing phrases of thanks at the end; (c) carefully arranging the questions in sequence by starting with the easier and closed questions then moving on to open-ended questions, which ask for thoughts and opinions; and (d) piloting the survey before distributing it to the entire sample to ensure comprehensibility.

Surveys can be distributed as paper-based texts or distributed electronically online and this choice may be determined by the nature of the research, the sample location or convenience. The response rates for online surveys are not always as high as those for what Wellington and Szczerbinski refer to as “conventional surveys” (2007, p.97). However, by the time I carried out

my research in 2016, it had arguably become more conventional to use digital surveys. Naturally, despite their convenience for distribution and analysis, such surveys have their drawbacks. According to Wright (2005), the disadvantages of online surveys are as follows: the accuracy of participants' self-provided demographics or characteristics is not guaranteed; the weakness in some survey software can accept multiple responses from participants; and gaining permission to access some online communities could be extremely challenging as it may take a long time to explain the purpose of the study and to receive a response. In some cases, the access request may be rejected by the community sponsors (Wright, 2005). However, Wellington and Szczerbinski (2007, p.97) believe that using online surveys could be more efficient and quicker than using paper-based post for distribution and collection.

In this study, I employed an online survey as one of the main instruments to cover all aspects of the research questions. MOOC participants naturally prefer online tools that enable them to answer wherever they are and at their preferred time. In addition, Saudi Arabian MOOCs have a massive number of participants who are from different places both inside and outside the country, so it is more practical to explore general Saudi perceptions of MOOCs using a large sample. This way, the answers can be compared to provide insights and make general claims about Saudi individuals' MOOC use; in addition, my absence while questions were answered ensured no bias was introduced to the quantitative data. Furthermore, I hoped to get responses from a large number of participants living in different places in Saudi Arabia and using a survey helped me to achieve this goal. I designed a closed survey that I hoped participants could respond to easily and quickly; this led to a high number of responses because the survey was voluntary and many participants had joined informal MOOCs not related to any official public organisation. Using surveys to understand Saudi perceptions of MOOCs may reduce the time and effort required; online surveys give participants sufficient time to think about the questions before answering, which could increase the accuracy of information given. As a researcher, I



found that using online surveys meant that a large number of people could be surveyed more quickly compared to conducting interviews or using other instruments with the same large sample. This saved me effort and money because I didn't need to travel to distribute the survey; all I needed to do was post the survey online and send the request for answering with a link to the survey. Because online surveying is obviously done at a distance and I did not meet with the participants, I put my email address at the University of Sheffield at the end of information letter (with the invitation) to allow the participants to contact me with any questions or concerns. Using the survey obviously meant that I could not use follow-up questions with my participants. Moreover, I could not encourage expansive answers and it was not possible to take up new lines of inquiry. Surveys lack a personal touch, and while some participants may have preferred a personal, more open and interactive approach, others may have found a survey style with specific answers more comfortable and engaging.

#### **4.5.2.1 Survey Procedure**

I prepared the first draft of the survey, taking into consideration the important aspects in designing the survey mentioned in the foregoing section, as well as considering the points relevant to the research questions. The first draft of the survey contained five sections: the first section consisted of 15 demographic and general questions about MOOCs with a list of options provided. These included personal questions such as gender, age, location, highest academic qualification, and occupation, as well as questions about their use of MOOCs, such as the tools they have used, their aims for using these courses, the frequency of MOOC use, and the number of MOOCs they have joined or completed. All of this information is useful in providing insights into Saudi participants in MOOCs and highlighting any significant differences between their responses. Although all participants in this study should be Saudi, I added a question in this section about the nationality with just two choices: Saudi or non-Saudi. This was done in order

to increase the accuracy and validity of the results given some non-Saudis did not read the information letter explaining the purpose and the target population of this study. The second section consists of three parts, and all items in each part were answered by participants through a Likert Scale. I used a Likert Scale because the scale is a popular approach in social science research (Burgess, 2001, p.10) and is commonly used to assess individuals' attitudes (Jamieson, 2004, p.1217) by enabling the respondents to select their degree of agreement across a range of categories. The scale also allows the researcher to apply statistical tests on participants' responses to measure their trends. I used a scale with five common categories, where the highest point is 'strongly agree' and the lowest is 'strongly disagree'. Table 4.3 shows how the calculations were made using the five-point Likert Scale.

Table 4.3: Likert Scale

<b>Scale</b>	<b>Meaning</b>
5 – 4.21	Strongly Agree
4.20 – 3.41	Agree
3.40 – 2.61	Neutral
2.60 – 1.81	Disagree
1.80 – 1	Strongly Disagree

However, McLeod (2008) claims that using the Likert Scale could be a negative when the validity of its attitude measurement might be compromised because of social desirability. This means that participants may be affected by a general social sense of MOOCs more than by thinking about their real opinions from their own experiences. Despite this, McLeod (2008) believes that social desirability can be reduced by offering anonymity within the surveys.

The first part had 15 questions related to my first research question, which was about “the impact of MOOCs on your life”. The second part had 15 points related to my second research question which explored “the effectiveness of teaching and learning design in MOOCs”. The third part included eight questions about my third research question, which enquired about “the

social MOOC environment”. The third section included two optional, open-ended questions for participants who had additional information they wanted to share in relation to their expectations of MOOCs both before and after participating. The survey concluded with an invitation to participate in a further in-depth interview. By taking part in the interview, they had the opportunity to enter a prize draw to win an iPhone 6s and receive a certificate of appreciation (see Appendix D). They could accept the invitation by checking the box next to “I would like to participate”; they were then required to provide their email and Skype ID (if available) so I could contact them. I offered a certificate of appreciation to all interviewees and entered them into a draw for an iPhone 6 in order to let them know that I appreciated their participation and to create excitement during the research process.

#### **4.5.2.2 The Survey’s Validity and Reliability**

According to Mora (2011), researchers should consider many things when they create surveys that aim to gather high-quality information and yield valid and reliable results. Mora (2011) indicates that validity is concerned with the accuracy of research instruments and it focuses on determining whether the instrument measures what it is supposed to measure. This leads us as researchers to think about a way that would enable us to assess the survey’s validity and ensure that the survey is indeed measuring what it is intended to measure. Radhakrishna (2007) states that there are many types of validity, such as face validity, content validity, criterion validity, and construct validity, and the researcher selects the type that should be used based on the research objectives. Furthermore, Wiersma (2013, p.2) claims that there are also two sub-types of survey validity: internal validity, which concerns the rigour of the measurements with which the identified concepts are measured, and external validity, which is concerned with the survey's validity beyond the study in terms of its generalisability to both the population and across contexts. Mora (2011) indicates that most surveys usually have face validity. In Buley’s

(2000, p.4) view, face validity is confirmed when a group of experts on the research subject look at the instrument's questions in order to evaluate whether they measure the concept; if the experts agree that questions measure the supposed concept, then the measurement is considered valid from its appearance. Otherwise, the researcher will need to make changes based on the experts' opinions.

On the other hand, Buley (2000, p.1) indicates that reliability is a complex concept as it refers to many things including consistency across time and internal consistency. Internal consistency is identified as the degree to which different statements or questions measure the same concept or characteristic (Mora, 2011), whereas consistency across time is concerned with whether the instrument will provide the same results when it is used for the same phenomenon at different times (Buley, 2000, p.1). Bolarinwa (2015, p.198) argues that measuring the reliability of a survey is usually performed by using a pilot test, and Radhakrishna (2007) states that the purpose of a pilot test is to determine whether the survey consistently measures what it is supposed to measure. Reliability can be assessed in three ways: test-retest reliability, equivalence or alternate-form reliability, and internal consistency reliability or homogeneity (Bolarinwa 2015, p.198). The use of these reliability types often depends on the nature of the data, for example, internal consistency is appropriate for measuring the reliability of questions measured using interval/ratio scales (Radhakrishna, 2007). There are many tests that can be used to confirm internal consistency such as split sample comparisons, correlations, or by using Cronbach's alpha (Mora, 2011). The reliability coefficient (alpha) can have values from 0 to 1, where 0 represents an unreliable survey and 1 represents an absolutely reliable survey; however, when the coefficient (alpha) is calculated in SPSS and has a value of 0.70 or higher, this is considered to represent acceptable reliability (Bolarinwa, 2015, p.199-200).

Based on the discussion above, I moved to the next step after constructing the survey, which was to present it and the research questions to some specialists in the field of study in order to

determine whether the questions are clear and meaningful and without any vague terms, thus allowing participants to easily understand and answer them. The specialists also ensured that all sub-questions in each part are relevant, arranged logically from general to more specific, and answer the research questions in a useful manner. Because it is important to write the questions in the participants' own language, I translated the survey into Arabic and consulted a statistician to evaluate the questions and recommend the right measurement. I then made some amendments based on the specialist's and statistician's recommendations and constructed the final version of the survey in both Arabic and English (see the English version in Appendix E). In addition, after consulting the statistician about the most suitable statistical tools for this study, I selected the following methods:

- (1) Microsoft Office Excel to export all responses from Google Drive and separate the Saudi responses from non-Saudi responses.
- (2) The Statistical Package for Social Science (SPSS) software to obtain:
  - a. Cronbach's alpha coefficient and the Pearson product-moment correlation to measure the validity and reliability and to determine the internal consistency of the survey.
  - b. The frequency and percentages to describe sample characteristics.
  - c. Means and standard deviation to determine sample response trends.

These statistical methods are approved in social science research and are common methods used for statistics with quantitative data, so this makes them the most appropriate methods for this study. Following this step, I put the survey online in my Google Drive account at the University of Sheffield before distributing the survey to the platform.

On the first day of distribution, I used the responses from the pilot study with a small sample in order to examine the survey to ascertain its validity and reliability and to ensure that the questions measured what they were meant to measure. In addition, the pilot study helped me

to discover if the participants faced any difficulties while answering the survey and it also ensured that I could read their answers without technical problems; consequently, it was possible to make adjustments before gaining responses from all participants. The sample for the pilot study was 42 Saudis who had participated in at least one MOOC. I entered the data from the pilot study into SPSS to measure its validity and reliability, while the internal reliability of the survey was measured by Cronbach’s alpha scale. Table 4.4 shows the value of the alpha coefficient for each part of the survey.

Table 4.4: Reliability Coefficient Analysis using the Cronbach’s Alpha Scale of Each Part

<b>Parts</b>	<b>Cronbach’s alpha coefficient</b>
Part 1: The impact of MOOCs on your life	0.805
Part 2: The effectiveness of teaching and learning design in MOOCs	0.894
Part 3: The social MOOC environment	0.910
All parts	0.937

It is clear from Table 4.4 that the alpha coefficient values are very high, confirming that the internal reliability of the survey is also very high. In addition, the correlation across parts is also reliable as the results show a high alpha coefficient value for all parts (0.937).

The internal consistency of the survey was also measured by the Pearson scale. Table 4.5 shows the results of the Pearson correlation in each part.

Table 4.5: Exhibiting the Pearson Correlation of each Item in each Part

No	Pearson Correlation		
	Part 1: The impact of MOOCs on your life	Part 2: The effectiveness of teaching and learning design in MOOCs	Part 3: The social MOOC environment
1.	0.495**	0.574**	0.672**
2.	0.334**	0.501**	0.755**
3.	0.542**	0.386**	0.793**
4.	0.554**	0.526**	0.762**
5.	0.451**	0.647**	0.564**
6.	0.539**	0.588**	0.736**
7.	0.562**	0.612**	0.819**
8.	0.558**	0.660**	0.681**
9.	0.341**	0.608**	
10.	0.471**	0.512**	
11.	0.521**	0.664**	
12.	0.422**	0.569**	
13.	0.455**	0.527**	
14.	0.469**	0.406**	
15.	0.616**	0.577**	

(\*\*) Correlation is statistically significant at the 0.01 level.

The results from Table 4.5 show that all correlations are statistically significant at the 0.01 level, which indicates internal consistency between the items in each part and the scale. Furthermore, the results confirm that each item in each part was internally homogeneous.

The results after measuring the internal consistency and the internal reliability confirm the efficiency of the survey, indicating that it is valid and reliable. In addition, the results show that employing this survey is suitable and appropriate for this study. For these reasons, the survey was used to gather information and was distributed after confirming its efficiency for the sample of this study.

Although I designed the survey based on Wellington and Szczerbinski's (2007) criteria in an attempt to ensure its reliability and validity in the pilot study and presented the survey to a specialist in educational technology and statistical analysis, it became apparent following analysis that there were two questions that did not provide me with accurate inferences. These questions asked the participants about the number of MOOCs they had joined and the number

of MOOCs they had completed. Four choices were provided for the participants to select from: one to three courses; four to six courses; seven to eight courses; or more than eight courses. After collecting the data, I found that the majority of participants selected the first choice, ‘one to three courses’, for each of these questions. This means, for example, that a participant who had joined one course was analysed statistically the same as the participant who had joined two or three courses. However, I found that the experiences, perceptions, and expectations of the participants who had joined and completed more than one course were generally broader than those of participants who had joined and completed just one course. Thus, it would have been more helpful if I had provided the following choices for these questions: one course; two courses; or more than two courses. Consequently, I had to ask my interviewees to specify the number of MOOCs they had taken in order to understand the extent of their experiences in MOOCs. Thus, I was able to partially recover from this oversight but it would have been much more helpful to have had this finer grained detail from the survey.

### **4.5.3 Interviews**

According to Edwards and Holland (2013, p.1), the interview is considered a central resource in social science research and is the most widely used method for obtaining qualitative data. Cohen et al. (2011, p.409) believe that interviews are a powerful instrument for researchers, while Wellington and Szczerbinski (2007, p.81) state that interviews “reach the parts which other methods cannot reach”. In other words, interviewing allows researchers to probe the interviewees’ values, perceptions, perspectives, thoughts, views, prejudices, and feelings (Wellington and Szczerbinski, 2007, p.81). In addition, Cohen et al. (2011, p.409) remark that the “interview is not simply concerned with collecting data about life; it is part of life itself, its human embeddedness is inescapable”. This might be because interviews enable the participants to make two-way conversations and play the role of interviewee or interviewer within the



conversation, which allows them to “discuss their interpretations of the world in which they live, and to express how they regard situations from their own point of view” (Cohen et al., 2011, p.409). In this sense, interviews enable the researcher to have an interactional dialogue exchange with the participants in order to understand their perceptions of particular topics and this could provide valuable information such as explanations, justifications, and reasons based on their particular situations.

I employed in-depth interviews as an extension tool to obtain more detailed information about Saudi perceptions of MOOCs and to enable the participants to freely explain their distinct experiences and opinions in detail. I was able to know where the participants came from, their qualifications, and their ages by referring to their answers in the survey. Therefore, I was eager to select interviewees from different regions of Saudi Arabia; some were from large cities with considerable universities and others were from small provinces without universities, although a university serving all the provinces was nearby. From the interviews I learned about their aims and purposes for using these courses, what MOOCs could provide to Saudi people, what they expect and hope to learn from these courses, and how MOOCs help them in their lives. Most of the interviewees had completed more than one MOOC, and some had experienced learning via MOOCs on different platforms, including foreign English platforms (such as edX). In addition, some interviewees had learning experience from archived MOOCs as well as current MOOCs. The interviews were conducted from January 25, 2016 to March 11, 2016. The interviewees comprised 20 Saudis, all of whom were living in Saudi Arabia. Thirteen of the interviewees were living in the central area of Saudi Arabia, three were in the western area and three were from the north. Only one interviewee was from the eastern part of Saudi Arabia. Further details about the interviewees’ demographics and characteristics are explained in Table 4.6.

Table 4.6: The Demographics and Characteristics of the Interviewees

Pseudonym	Age	Gender M/F	Place of living in SA	Occupations	Highest academic qualification	Number of times they use MOOCs
Haifa	26 ~ 30 years	F	Riyadh	A postgraduate student	Bachelor	A few times a month
Amani	25 years or less	F	Riyadh	A postgraduate student	Bachelor	Daily
Amal	26 ~ 30 years	F	Riyadh	A postgraduate student	Bachelor	1 ~ 3 times/week
Lama	25 years or less	F	Western Region	Recent graduate from university	Bachelor	1 ~ 3 times/week
Danah	25 years or less	F	Sakakah	An undergraduate student	Bachelor	4 ~ 6 times/week
Latifah	31 ~ 35 years	F	Tabuk	An employee	Bachelor	1 ~ 3 times/week
Halah	26 ~ 30 years	F	Al-Khobar	An employee	Bachelor	1 ~ 3 times/week
Ghadah	26 ~ 30 years	F	Madina	An employee	Bachelor	A few times a month
Alya	26 ~ 30 years	F	Riyadh	A postgraduate student	Bachelor	1 ~ 3 times/week
Reem	31 ~ 35 years	F	Al-Qassim Region	A postgraduate student	Bachelor	A few times a month
Fahad	26 ~ 30 years	M	Riyadh	An employee	Bachelor	1 ~ 3 times/week
Ahmed	26 ~ 30 years	M	Riyadh and Al Dawadmi	An employee	Bachelor	1 ~ 3 times/week
Khaled	36 ~ 40 years	M	Riyadh	An employee	Bachelor	Daily
Sarah	26 ~ 30 years	F	Madina	A job seeker	Bachelor	1 ~ 3 times/week
Nourah	25 years or less	F	Al-Qassim Region	An undergraduate student	High school	1 ~ 3 times/week
Sultan	36 ~ 40 years	M	Riyadh	A postgraduate student	Master	A few times a month
Bader	26 ~ 30 years	M	Riyadh	An employee	Bachelor	A few times a month

Faisal	25 years or less	M	Riyadh	An undergraduate student	High school	A few times a month
Saud	31 ~ 35 years	M	Ha'il	A postgraduate student	Bachelor	4 ~ 6 times/week
Waleed	31 ~ 35 years	M	Riyadh	An employee	Bachelor	1 ~ 3 times/week

On the other hand, four of the interviewees knew about the MOOCs platform from their colleagues in their learning institution and only two were made aware of the platform by their employers. The main aim of using MOOCs, according to half of the interviewees, was gaining more experience for professional development, and the other half were merely interested in online learning. The tools that the interviewees have used while learning via MOOCs can be seen in Table 4.7.

Table 4.7: MOOCs Tool(s) Used by Interviewees

Pseudonym	Forums	Wall posts	Assessment	Watching videos	Reading the materials
Haifa	No	No	Yes	Yes	Yes
Amani	No	No	No	Yes	Yes
Amal	Yes	Yes	Yes	Yes	Yes
Lama	Yes	Yes	Yes	Yes	Yes
Danah	Yes	No	Yes	Yes	Yes
Latifah	No	Yes	Yes	Yes	Yes
Halah	No	No	No	Yes	Yes
Ghadah	No	No	Yes	Yes	Yes
Alya	No	No	Yes	Yes	Yes
Reem	Yes	No	Yes	Yes	Yes
Fahad	No	Yes	Yes	Yes	Yes
Ahmed	Yes	No	No	Yes	Yes

Khaled	Yes	Yes	Yes	Yes	Yes
Sarah	No	No	Yes	Yes	Yes
Nourah	No	Yes	Yes	Yes	Yes
Sultan	No	No	No	Yes	Yes
Bader	Yes	Yes	No	Yes	Yes
Faisal	Yes	Yes	No	Yes	Yes
Saud	No	No	No	Yes	Yes
Waleed	Yes	No	No	Yes	Yes

From Table 4.7, it is evident that all interviewees utilised the written materials and videos when they were learning via MOOCs. However, they varied in their use of assessment and discussion tools.

Conducting interviews was particularly important as they helped me to learn more detailed information from a few Saudi learners, especially because the survey answers were limited in space and the observations were for only one MOOC.

The interviewees who participated in the survey agreed to take part in an additional interview. Interviewees were selected based on their answers in the survey and I considered the participants who answered the open-ended questions in the survey and had messages they wished to share about the MOOCs.

Because the interviewees were from different places, I conducted all interviews via Skype. This online interviewing approach “enables the transcendence of boundaries of time and space, reaching beyond the constraints of face-to-face contact” (Edwards and Holland, 2013, p.26). The participants were asked to choose a convenient time for the interviews to be conducted. However, this was one of the main challenges that I faced because of the time difference between the UK and Saudi Arabia. Furthermore, I experienced some challenges due to Internet

connection speeds and it was sometimes necessary to call the participant several times to achieve a clear connection. I contacted the participants first by email and sent them the invitation, information letter, and consent form (see Appendix F) to ask them to participate in in-depth interviews. In the email, I suggested days for conducting the interview and asked each participant to choose a suitable time or change the date if it was not convenient. Three of the interviews were conducted in the morning between 9:00 a.m. to 10:30 a.m. Saudi Arabia time (6:00 a.m. to 7:30 a.m. GMT); seven took place in the afternoon between 2:30 p.m. and 6:00 p.m. (11:30 a.m. to 3:00 p.m. GMT); and nine took place at night after 8:00 p.m. (5:00 p.m. GMT). In every interview, I started by introducing myself to the participant and providing a brief overview of my research focus and its importance to Saudi people. I explained the general frame of the interview questions and the approximate time required—about 40 to 60 minutes. I then asked them if they had any questions before starting the interviews in order to make them more comfortable during the conversations. I was very careful to ensure the interviewees understood the meaning of the questions and my speech during our conversation, so the interviewees could ask me any questions during the interview when they found ambiguity in the questions. I recorded the interviews with three devices: a digital recorder with a USB connector and two smartphones. I used these recording devices because I think it is important to ensure that there are alternative recordings in case one of them becomes damaged. The recordings also enabled me to concentrate on the conversations and ask for more clarification to remove any ambiguity regarding the information provided. I transcribed all interviews immediately after conducting them and saved the transcriptions in my password-protected and secure University of Sheffield iCloud account.

The interviews were in-depth, semi-structured interviews, which is often the most valuable approach to interviewing, and they involved a guide or checklist of issues and questions to be covered (Wellington and Szczerbinski, 2007, p.83). In other words, although the researcher in

a semi-structured interview has an interview guide with a list of questions that need to be covered in the interview, the interviewer generally focuses on the context and content of the discussion; therefore, the interview guide is flexible in how and when the questions are asked, and how the interviewee can respond (Edwards and Holland, 2013, p.29). Wellington and Szczerbinski (2007, p.84) summarise the characteristics of semi-structured interviews into four main elements: (1) flexible structure of the topics or issues discussed, (2) more control for the interviewer; (3) not completely predetermined, and (4) may be analysed using more quantitative approaches or in a thematic way. Essentially, semi-structured interviews allow greater space than structured interviews for the interviewees to answer questions and to flexibly explain their ideas, while the interviewer can probe answers and pursue discussion opened up by the interviewees (Edwards and Holland, 2013, p.29).

The main focus of the interviews was to understand Saudi participants' perceptions about their experiences in MOOCs. The interviews covered all the topics in the research questions, and the interview framework divided the questions into three main headlines to organise and facilitate the conversations: general questions, questions about learning in MOOCs, and questions about communicating with others in MOOCs. All subsidiary questions within each category were open-ended (see Appendix G). In addition, all subsidiary questions in each group of the interview framework were connected to probing questions to enable the interviewees to speak freely with in-depth explanations. However, I realised that some participants gave short answers and consequently I tried to ask them for more details in order to understand their opinions more clearly. Moreover, I added more questions or amended them based on the interviewee answers in order to provide more flexibility to probe for elaborations; in some situations, I even discussed some sensitive issues regarding learning via MOOCs.

#### **4.6 Trustworthiness of Qualitative Data**

The criteria used to judge the quantitative data (such as reliability and validity) are considered inappropriate for judging semi-structured observations and open-ended interviews. For such cases, Lincoln and Guba (1985) provide an alternative criterion called trustworthiness. Golafshani (2003) argues that the terms reliability and validity in qualitative research are not viewed separately; they encompass the following terminologies: trustworthiness, credibility, and transferability. In addition to credibility and transferability, Lincoln and Guba (1985) add dependability and confirmability to the evaluation of trustworthiness that judges qualitative research. In the following paragraphs, I discuss these aspects in relation to my qualitative data.

Credibility refers to “the confidence that can be placed in the truth of the research findings” (Korstjens and Moser, 2018, p.121). Credibility identifies whether the research findings represent plausible information drawn from the original data and correctly interpret the participants’ original views (Korstjens and Moser, 2018, p.121). Triangulation is one technique which can be used to bring credibility to qualitative research (Lincoln and Guba, 1985, p.305); it involves bringing different kinds of evidence and this can be performed using different data collection methods to reduce the inherent bias associated with a single source (Long and Johnson, 2000). In my study, different data collection methods were used to increase the credibility of the qualitative data. In-depth interviews were conducted to confirm, to improve the preciseness, and to provide deeper and detailed information regarding the findings obtained from the survey and observations. Moreover, I piloted the methods that I used in my research to assess their worthiness and to make any necessary amendments.

Transferability explains the degree to which the findings of qualitative research can be transferred to other settings or contexts with other participants (Korstjens and Moser, 2018, p.121), or even in the same context at some other time (Lincoln and Guba, 1985, p.316). This is because the findings of quantitative research might only be applicable for that particular site

and at that time (Lincoln and Guba, 1985, p.316). The researcher can facilitate transferability to someone interested by providing sufficient detail to transfer and reach a conclusion about whether the transfer to the next situation will be possible (Lincoln and Guba, 1985, p.316). Therefore, my study provided sufficient information about the MOOC environment of this research, the framework of the research design, the data findings, and the analysis to enable the reader to judge the possibility of transferring the findings to another setting.

Dependability and confirmability relate to the transparency of the research process in terms of the description of the research steps from the beginning of the project to the development and reporting of the findings (Korstjens and Moser, 2018, p.121). These research steps should be recorded and kept throughout the research (Korstjens and Moser, 2018, p.121). Lincoln and Guba (1985) argue that the importance of dependability is to ensure that the process of analysis is in line with the accepted standards for the research design, while confirmability is important in securing the inter-subjectivity of the data so that the interpretation can be grounded in the data but not based on the researcher's preferences. In light of this, I presented my research procedures to the ethics group at the University of Sheffield before collecting my data. In addition, I presented my proposal to two of the faculty members at the School of Education to ensure that my research and data collection procedures were within the accepted standards. Moreover, I kept records of all my work during the data collection stage, and I have continuously discussed my research and particularly my findings with my supervisor and my colleagues as they are always able to provide valuable feedback.

#### **4.7 The Researcher's Positionality**

Research is a social activity that needs to be conducted in place to people and purposes and the researcher needs to be involved in the social embedding that makes the research a meaningful activity (Dunne et al., 2005, p.22). In addition, the researcher's identity and his or her position



within the research are derived from the research methodology (Dunne et al., 2005, cited in Al-Roomy, 2013, p.77). In this sense, I positioned myself as a mixed methods researcher who designed quantitative and qualitative methodology to determine how Saudi participants perceive MOOCs. I chose this topic based on my professional interests because I am working in the academic field and also because I majored in computer science for my Bachelor's degree and in educational technology for my Master's degree. My previous qualifications helped me to gain an insight into how we can utilise technology to improve teaching and learning. I found MOOCs to be a topic of interest that needs to be studied, especially because it is still new and usually performed by academic professionals and experts. My role in the position of conducting mixed methods research includes conducting quantitative and qualitative processes. Simon (2011) believes that the researcher's role in quantitative studies is non-existent theoretically because participants' responses are independent of the researcher's existence. On the other hand, a researcher in a qualitative study becomes a human instrument (Simon, 2011). Moreover, according to Lincoln and Guba (1985, cited in Hoepfl, 1997), the researcher in qualitative studies must do three things: first, (s)he must take the position suggested by the characteristics of the interpretive paradigm (p.50); second, the researcher must develop the appropriate skills for collecting and interpreting the data (p.50); and finally, the researcher must prepare a suitable research design using accepted strategies for naturalistic inquiry (p.50). From this perspective, I positioned myself as responsible for determining the most appropriate research design that could answer my research questions, for selecting and designing the data collection methods, for choosing the sampling technique, for collecting and analysing the data, and for providing recommendations.

It is important to include the requirement of being critical of the researcher's positionality (Wellington, 2015, p.87). This means that conducting a study requires a critical researcher who has developed the ability to be critical in thinking, reading and writing. Harwell (2011, p.167)

argues that the best researchers are those who are attracted to doubts, paradoxes, contradictions and ambiguities in their research field. In this sense, I found myself responsible for reading a significant number of literature reviews about MOOCs and attempting to analyse their strengths and weaknesses in order to evaluate the ideas and provide a more detailed explanation regarding my own perspective. In addition, Wellington (2015, p.89) confirms that being critical in academic research involves dealing with qualified and uncertain claims. This led me to be cautious and careful, especially while analysing and evaluating ideas or my data; I also endeavoured to be clear in providing justifications to support my point of view.

Takacs (2003) confirms that our positionality can bias our epistemology, and our views are not inevitable. Alanazi (2012, p.130) argues that being familiar with the culture and context of the study may also evoke some issues regarding validity and objectivity. However, I recognised that my role as a researcher should always be monitored by thinking carefully about my position in the research. Therefore, I decided to select different data collection methods including conducting interviews and surveys to provide more evidence about what I was able to see in my observations. In addition, I recorded the participants' responses and separated them from my own thoughts, comments and interpretations to make my analysing position very clear.

According to England (1994, p.248), the researcher's biography affects the research fieldwork in two ways. First, the researcher's personal characteristics allow for particular insights; thus, some researchers can understand some phenomena more easily or better than other researchers (p.248). For example, my position as a researcher from Saudi Arabia was particularly helpful to me in understanding the culture and the context of the research and the social environment of participants, especially because I work in the Deanship of Skills Development at King Saud University, which is responsible for designing and implanting various training programmes in different fields and some of these are very similar to MOOCs. For example, the Rwaq platform

provides a MOOC titled *Teaching in Higher Education*. While the topic of this course has been covered by the Deanship of Skills Development at King Saud University, it was only available for a limited number of new faculty members because of the limited seats in the traditional training class. My job enabled me to deal with different people every day, including students, faculty members and employees, and therefore I was aware of some of their needs. Another way in which England (1994, p.249) thinks research is affected by the researcher's biography is gaining access to information that could be confidential. Certainly, I think one of the key factors that created excitement among the participants involved in my research and one of the reasons they agreed to participate is because I introduced myself as a Saudi PhD researcher at the University of Sheffield; I also always mentioned my full name and used the University of Sheffield email address, which enabled the participants to be certain of my identity and helped them to understand the seriousness of the research. In addition, I used an official letter written by my supervisor when I contacted the owners of the MOOC platforms. Although they never asked me to provide an official letter, I thought this would ensure the process appeared more professional and official.

One of the challenges that researchers should take into account is considering participants' culture throughout the research process. I believe that although I have broad knowledge of Saudi culture, there are still some differences within each community in Saudi Arabia and this has an impact on people's perspectives. For example, it is clear that Saudi culture generally tends to be more conservative compared to other cultures; however, for me as a Saudi woman living in Riyadh, Saudi Arabia, for all my life, I can see the cultural differences between people from the west and the middle regions of Saudi Arabia, among the other regions, and even between individuals within the same region. Indeed, the majority of the conservatism in Saudi culture derives from Islamic culture, which means that people are highly considerate of the privacy of others, while respecting their public lives, and many women in Saudi Arabia prefer

to keep their personal photos private. Therefore, the Saudi government has established restrictive rules that make all people in Saudi Arabia feel comfortable as they respect all citizens and ensure that their rights are reserved. However, through my experience in social media and my job at King Saud University, I can see how much Saudi people are able to learn in an open-minded manner and this has affected and changed their culture. They like to experience everything new that is useful to them and share knowledge with other people around the world. Therefore, many Saudi doctors, experts and professors have social media accounts and they communicate with other people, post new information and answer people's questions. When I started the data collection process I expected moderate responses, but I was surprised by the large number of participants who sent emails containing prayers, wishes, encouragement and support statements. One of the MOOC learners who is in the final year of his Bachelor's degree sent me a question about how MOOCs could help him in his future career. Another learner thanked me because I mentioned the names of certain MOOC platforms and she was grateful that I had brought them to her attention. I was therefore able to ascertain that the research being carried out had some mutual benefit for my participants.

#### **4.8 Data Analysis**

Cohen et al. (2011, p.130) believe that it is important for researchers to consider how the data will be analysed because this will determine the appropriate way for designing the instruments and gathering the data. As a mixed researcher, I considered aspects that would help me in collecting both quantitative and qualitative data. The quantitative data includes numbers or inputs which need to be converted into numbers before starting the analysis (Wellington and Szczerbinski, 2007, p.117). The quantitative data in my research was collected using the survey; thus, as mentioned in Section 4.5.2, I designed the survey using Google Drive because it allows for gathering data online, organises the data into tables and exports them into Excel,

which assists in determining the frequencies and percentages and in the analysis process. In addition to the use of Microsoft Office Excel, I used SPSS to help me assess the numerical data obtained from the survey. Wellington (2015, p.273) argues, however, that these software packages do not analyse the data of the research; rather, they are reliable tools that facilitate and assist the analysing process by providing the opportunity to assign codes to the data, make searches for the data to return to it quickly, and count the frequency of words or phrases.

On the other hand, I collected qualitative data from two non-mandatory open-ended questions in the survey, from writing notes from my observations, and from conducting interviews with the participants.

According to Wellington (2015, p.260), there is no single correct way of analysing qualitative data. However, there are general rules and guidelines that should be followed in order to choose the most appropriate way of achieving the purpose of the study. This requires a researcher who has a significant amount of knowledge on methodology and is intellectually competent (p.277). Lacey and Luff (2007, p.6-7) state that analysing qualitative data usually follows the same stages, which may not always occur in the same sequence. There are primarily five stages. The first stage is transcription of the recorded data (such as the data from recorded interviews or videos), which also includes writing non-verbal cues, emotional distress, and gestures and expressions that could add meaning to the spoken word (p.20). The second stage is organising the data into easily retrievable sections by using numbers or codes and assigning pseudonyms or code numbers to refer to the interviewees or any names and other identifiable materials to ensure the confidentiality of the data (p.22). The third stage mentioned by Lacey and Luff (2007) is familiarisation, which means that the researcher needs to re-listen to the recorded data and re-read and revise the data in order to make memos and summaries before beginning the formal analysis (p.22). The stage after familiarisation is coding by giving a preliminary code to the ideas that crop up readily in the transcript (p.22). However, the researcher may need to

re-code some data as a result of the emergence of new categories of data (p.24). The last stage of qualitative analysis is identifying themes and engaging in re-coding in order to develop more clearly defined categories which can be identified from the literature (p.24). Some themes will likely emerge from the research data and this could influence the researcher to identify further issues and explore them in his/her research (p.25). However, refining and developing themes would be continued with the collection of further data until a 'saturation' point is reached where there are no new themes emerging (p.25).

For the purpose of this research, I listened to and transcribed all of the recorded interviews carefully by myself, and I was eager in this stage to write meaningful sentences that included the interviewees' expressions and feelings. In addition, I classified the results into themes chosen from the literature review and from the importance of the data. This helped me in elaborating the results and linking them with the theories and literature.

#### **4.9 Ethical Considerations**

In this section, I emphasise the ethics that I considered during my research. Some of these ethical procedures were mentioned earlier in this chapter; thus, I am going to briefly review some points in this regard to link the ethical guidelines that I followed from the literature with the steps that I took in conducting this research. First, I clarify the meaning of ethics, their importance, and the things that I considered from the literature review, then the procedure that I followed is explained by considering ethics in educational research.

Hammond and Wellington (2013, p.59) define ethics as moral principles that guide the behaviours of individuals. In educational research, ethical issues should be considered during all stages of the research process, and in particular, when considering the research purpose, the benefits and how data will be obtained and reported to ensure privacy and respect (Hammond

and Wellington, 2013, p.60). Wellington (2015, p.113) confirms that the ethical consideration is the main criterion in educational research and consequently researchers should place ethics as the top priority when they are planning, conducting and reporting their research. In addition, he argues that research in science should be ethical in five areas: research design, methods, data analysis, reporting, and conclusion or recommendations (p.113). Hammond and Wellington (2013) clarify several reasons for the importance of considering ethics carefully in research. Firstly, they believe that ethical considerations represent the researcher as honest and trustworthy and demonstrate that research is beneficial and worthwhile (p.61). Moreover, research outcomes might have a significant effect on stakeholders; therefore, the evaluation report is highly sensitive especially when it recommends changes that will affect individuals' status or employment (p.68). Furthermore, ethical considerations help the researcher by providing recommendations about the best way to treat individuals, to obtain consent from participants, and to integrate analysed data and research reports (p.132).

Because I conducted mixed methods research, I considered the ethics of both quantitative and qualitative research. According to Ritchie et al. (2013, p.84), some social scientists argue about whether qualitative research is 'ethically correct'. This is due to the lack of evidence caused by the deviation from rules and principles that each qualitative study requires (Mertens and Ginsberg, 2009, and Shaw, 2008, both cited in Ritchie et al., 2013, p.84). Furthermore, Wellington (2015, p.112) believes that the importance of ethics in educational research is multiplied in comparison to physical and biological sciences because in educational research individuals are studying individuals.

Hammond and Wellington (2013, p.61) claim that it might be helpful for researchers to be governed by professional association and institutional guidelines as they facilitate the understanding of ethical requirements, especially in dealing with young and vulnerable individuals. Regarding this, the British Educational Research Association published some

ethical guidelines in 1992 and these were updated and revised in 2011 (BERA, 2011). The ethical guidelines highlight the researcher's responsibilities to the participants, to sponsors, to the community of educational researchers, and to educational professionals, policy makers and the general public (BERA, 2011). However, Wellington (2015, p.115) argues that "moral relativism" is missing in educational research and consequently he suggests eight rules that each researcher should follow:

1. The researcher should ensure that no participants are involved in the research without obtaining from them permission and informed consent which contains an explanation about the procedures of conducting the research and where the research findings will be published.
2. The researcher should prevent participants from taking any unsafe action or forcing participants to do something unwillingly such as recording their voice without obtaining consent.
3. The researcher should always explain the purpose and the nature of the research.
4. The participants should not be deceived.
5. The researcher should avoid violating the participants' privacy or taking up a lot of their time.
6. The research should not exclude any participants from its benefits.
7. All participants should be dealt with fairly and with respect and honesty.
8. In every stage the researcher should ensure the confidentiality and anonymity of the participants, especially during publication.

My research was conducted online due to the nature of MOOCs; thus, I followed the ethics guidelines of the Association of Internet Researchers (AoIR). According to Markham and Buchanan (2012), the AoIR is an academic association dedicated to the advancement of the transdisciplinary field of Internet studies. It was founded in 1999 and organises an annual



conference that attracts many scholars from different countries. Furthermore, I followed the guidelines of the University of Sheffield Research Ethics policy (<https://www.sheffield.ac.uk/ris/other/gov-ethics/ethicspolicy>), and I conducted my research after gaining approval from the University of Sheffield ethics group (see Appendix H). In addition, as mentioned in Section 4.3, I contacted the platform by email and I had the consent of the MOOC platform owners to conduct my research. I followed ethical guidelines and gained consent where possible, so I did not gather any information about individuals without consent. As specified in Section 4.5.1, I observed groups of people and counted particular criteria. I gained consent from survey and interview participants (as I clarify earlier in Sections 4.5.2 and 4.5.3). I would like to emphasise that all participants were informed about the purpose and the reasons behind the research, and I explained to them that their participation was voluntary and that they could withdraw from this research any time without any negative consequences. In addition, I explained that there were no expected risks or discomforts related to this research, and if they felt uncomfortable with certain questions they could disregard them.

Wellington (2015, p.113) emphasises that educational research can be considered to be unethical or disrespectful when the researcher reveals the names of participants. In order to avoid this, I informed the participants who used either pseudonyms or their real names in the MOOCs that their names were not required, and I used pseudonyms to refer to them in the research. Thus, all participants' responses were completely anonymous and no identifying information was revealed in any dissertation or report resulting from this study. I transcribed the interviews on my own, and all the data of my research was stored digitally and securely on a cloud (by using the Google Drive of the University of Sheffield system) to ensure it was protected and to prevent data from any damage or loss; further, all participants were informed before starting the interview that the interviews would be conducted via Skype and would be

recorded. All the information they provided was considered completely confidential and private and it has been used solely for the purpose of the research.

It is important to note that although participation in interviews in my research allowed the participants to gain a certificate of appreciation and enter into a draw for an iPhone 6, I found this kind of appreciation did not seem to make a difference to the data I received. This is because I included this information at the end of the survey, so participants were unaware of it until they had reached the end of the survey and answered all previous questions. My survey took place online and therefore participants could not move on to the next part before completing the previous one. In addition, when I chose the interviewees, I tried to find participants from various regions in Saudi Arabia so their demographics were also different. Additionally, I was interested in interviewing the participants who added comments in the open-ended questions in the survey (I explained this earlier in Section 4.5.3 and in Table 4.6). I found the interviewees in my study to be very excited about the idea of having their voices, opinions, and hopes about MOOCs heard, and in fact, none of them contacted me or asked me about the certificate of appreciation or the prize.

## **CHAPTER 5: Findings, Analysis and Discussion**

This study's aim was to understand Saudi participants' perceptions of their experiences with MOOCs. The goal of this research process was to use mixed methods to generate data to help answer the three subsidiary research questions, which related to Saudi participants' perceptions of MOOCs in terms of their impact on their lives; Saudi participants' perceptions of the pedagogy and learning design of MOOCs; and Saudi participants' perceptions of the social MOOC environment. This chapter brings together the findings from the research about the project participants' perceptions of MOOCs in relation to the literature review. In addition, as a social constructivist researcher, I was able to understand and interpret the participants' views and expectations and link them to the context of Saudi Arabia.

Findings obtained in this study include both quantitative and qualitative data from Saudi learners who used at least one MOOC, as well as some statistical data regarding the total number of registrants in three MOOCs and the total number of successful participants. The main methods that were used to gather the data were observations within the MOOC looking at interaction, resources and course design, surveys, and finally in-depth interviews.

The research findings are analysed and reported as four main themes. My research questions framed the way in which I looked at the data; these helped me construct the framework that shaped the way I collected and analysed the data. However, during the data collection I closely analysed the participants' responses and looked for patterns in what they told me, which ultimately formed the subthemes. The first theme presents information about the demographics and characteristics of the survey respondents. This theme is essential to provide insights into who the Saudi research participants of MOOCs were and the comparability of their demographics with those of the participants in other studies and contexts. Understanding the demographics of participants before discussing the findings of this study's three main questions

enabled me to contextualise and give wider explanations and justifications for my participants' perceptions of MOOCs. The second, third, and fourth themes correspond to the research questions as they contain data analyses for the impact of the MOOC on the Saudi participants' lives, the Saudi participants' perceptions about the pedagogy and learning design of the MOOC, and their experiences with social MOOC environments. All responses to these subsidiary questions were used to answer the main question of this study, which is "To what extent are MOOCs culturally relevant to Saudi Arabian users from the learners' perceptions?" The mean and the standard deviation are provided to describe the data obtained from respondents within the quantitative survey.

### **5.1 Constructing Themes from the Research Data**

Ryan and Bernard (2003, p.88) indicate that "themes come both from the data (an inductive approach) and from the investigator's prior theoretical understanding of the phenomenon under study (an a priori approach)". Moreover, Cohen et al. (2011, p.559) highlight that "coding is the ascription of a category label to a piece of data, that is either decided in advance or in response to the data that have been collected". I decided on the four major themes in advance before collecting my data. The first theme is the demographics and characteristics of the participants, and this theme discusses the general questions in the survey. The data was obtained directly from the survey respondents. I then analysed the other quantitative and qualitative data obtained from the surveys, observations and interviews in the other three major thematic categories that corresponded with my research questions: Saudi participants' perceptions of the impact of MOOCs on their lives, Saudi participants' perceptions of MOOC pedagogy and learning design, and Saudi participants' perceptions of the social MOOC environment. Then, I categorised the data in each major theme into groups, with each group discussing the same topic, and each group was assigned a code name. I selected the code names

after collecting the data as I believe that each group was helpful in answering one of the research questions. The selection of theme names reflected the MOOC-related theories and the literature reviews. In addition, the repetition of some of the data, especially by the interviewees, affirmed the trustworthiness of my understanding of how the themes to have emerged. However, Ryan and Bernard (2003, p.87-88) argue that themes can exist in all sizes and shapes and therefore some themes are more focused on specific data while other themes are broad and link to many kinds of expressions. One possible explanation given by Cohen et al. (2011, p.559) is that “the same piece of text may have more than one code ascribed to it, depending on the richness and contents of that piece of text”. Therefore, I found that some data has been discussed in many different themes as it helped illustrate a range of ideas, for instance the advantages of flexibility learning in MOOCs. Table 5.1 shows the four major themes beside the main subthemes and the source of data for each.

Table 5.1: Main Subthemes and Source of Data for each Major Theme

<b>Major Themes</b>	<b>Main Subthemes</b>	<b>Source of Data</b>
The demographics and characteristics of the participants	<ul style="list-style-type: none"> <li>▪ How participants discover MOOC platforms</li> <li>▪ Participants’ main aim for using MOOCs</li> <li>▪ Participants’ occupations</li> <li>▪ Highest academic qualification</li> <li>▪ Number of times MOOCs are used</li> <li>▪ Number of MOOCs that participants have joined but not completed</li> <li>▪ Number of MOOCs completed by participants</li> <li>▪ MOOC tool(s) used by participants</li> </ul>	Survey, interviews

	<ul style="list-style-type: none"> <li>▪ Democratising Education</li> </ul> <p><i>(Note: the statistical analysis of the ages, genders, places of residence, and regions of the participants who live in Saudi Arabia is included at the end of Appendix E)</i></p>	
Saudi participants' perceptions of the impact of MOOCs on their lives	<ul style="list-style-type: none"> <li>• Motivation to learn MOOCs</li> <li>• MOOCs benefits <ul style="list-style-type: none"> <li>○ Professional development</li> <li>○ Self-development</li> <li>○ Access to information of interest</li> <li>○ Development in academic specialisation</li> </ul> </li> <li>• Completion rates</li> </ul>	Survey, interviews, observation, and some of the quantitative data from the MOOC platform
Saudi participants' perceptions of MOOC pedagogy and learning design	<ul style="list-style-type: none"> <li>• Teacher presence to enhance engagement</li> <li>• Attractive videos to draw participants' attention</li> <li>• Multiple short videos to increase participants' focus</li> <li>• Supplementary resources to satisfy participants' needs and levels</li> <li>• Tasks to enhance social learning</li> <li>• Assessment to enhance learning</li> <li>• Pedagogic orientation</li> </ul>	Survey, interviews, and observation
Saudi participants' perceptions of the social MOOC environment	<ul style="list-style-type: none"> <li>• Value of the community and interactions <ul style="list-style-type: none"> <li>○ Diversity of learners</li> <li>○ Collaborative community</li> </ul> </li> <li>• The types of participant in MOOC communities</li> </ul>	Survey, interviews, and observation

## **5.2 The Demographics and Characteristics of the Participants**

An important aspect of understanding the impact of MOOCs on education is to consider who is participating in MOOCs and how MOOC students use them. This specific discussion is presented here because, although this could be seen as part of methodology, I want to keep it within this section so that I can make a direct comparison between my data and the data of other projects. Grover et al. (2013, p.1) argue that “MOOCs attract a global set of learners with an extensive range of goals and prior knowledge”. These learners vary in their approaches to learning, their responses to the pedagogical and social contexts of learning, and their intrapersonal strategies of dealing with challenges they face (Grover et al., 2013, p.1). In addition, Bayeck (2016, p.223) believes that identifying the characteristics of MOOC learners can provide insights into how to enhance the learning to meet the learners’ needs. Therefore, the demographics and the characteristics of participants enable an understanding of the nature of Saudi MOOC respondents, which could have influenced their perceptions of MOOCs. In this section, I try first to simply explain the data collected from the participants in the first section of the survey by providing more in-depth explanations and linking this data to certain aspects of the literature, including the studies reviewed in Chapter Three. However, the statistical analysis of the ages, genders, places of residence, and regions of the participants who live in Saudi Arabia is included at the end of Appendix E.

Part of the declared mission of MOOCs has been to widen participation by making education freely accessible, irrespective of location, disability, ethnicity, gender, age or previous education level. Across a range of studies (see Chapter Three, Section 3.5.2) researchers have identified different segments of society as predominantly signing up to MOOCs. With regards to my participants’ ages, the age distribution of learners in the previous studies (such as Christensen et al., 2013, De Coutere, 2014, Ghosh, 2014, and White et al., 2014) was approximately close to the age distribution of participants in my study. For example,

Haywood’s data (2016, p.71) revealed that the majority of learners were between 21 and 45, with the youngest learners in their teens and the oldest above 65. As can be seen in Figure 5.1, in my study the number of participants in each age group reduces as the age rises. A report from the Communications and Information Technology Commission showed that younger Saudi age groups are more likely to be aware of online learning opportunities than older age groups. In fact, I had expected that the majority of participants in this study would be young Saudi people. This is because the Ministry of Education in Saudi Arabia, established in 1954, provides free education to all (Alamri, 2011, p.88). Before 1954, educational programmes were restricted and available only to selected people within the main cities. Accordingly, Saudis under the age of 70 years at the time of my project were more likely to have been to school and be literate. It is therefore less likely that older citizens will participate in MOOCs.

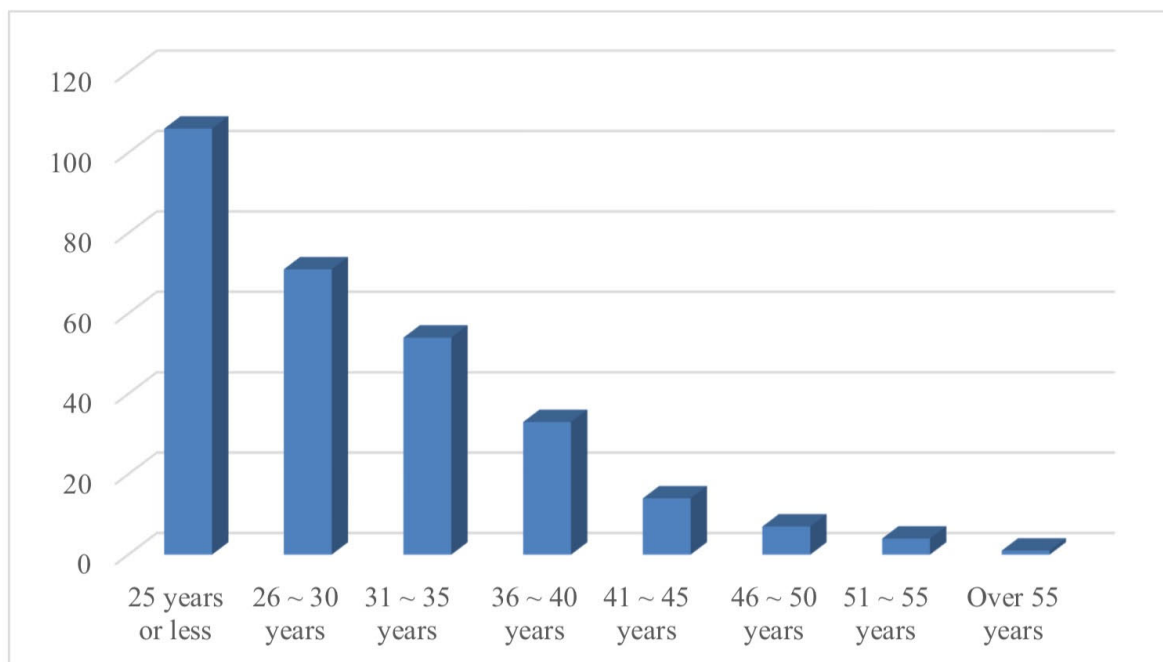


Figure 5.1: Number of Participants in each Age Group

In addition, my own data contains more females (67.2%) than males (32.8%). However, this data contradicts the results of other studies. For example, Christensen et al. (2013), Davis et al. (2014), Despujol et al. (2014), and White et al. (2014) identify more male participants than



female participants, and in Haywood (2016, p.71) participation was fairly evenly distributed between the sexes. MOOCs are very popular among women in Saudi Arabia, and the reason seems to be that MOOCs provide women the opportunity to learn in different fields at their convenience, without needing to travel or leave their homes (as explained in the Context of the Study and based on my participants' responses). According to a report from the Communications and Information Technology Commission (CITC, 2008), Saudi women (15%) are more likely than Saudi men (6%) to use the Internet to gather information. In addition, the 2007 report showed that 96% of Saudi women access the Internet from home (CITC, 2007), which indicates that Saudi women can more conveniently access information from the Internet in their own homes. In addition, this difference seems to strongly indicate something about the cultural dimension of gender and gender roles. This is because, as shown in Figure 5.2, when I examined the gender of the employed participants, the majority were male (64.6%) rather than female (35.3%).

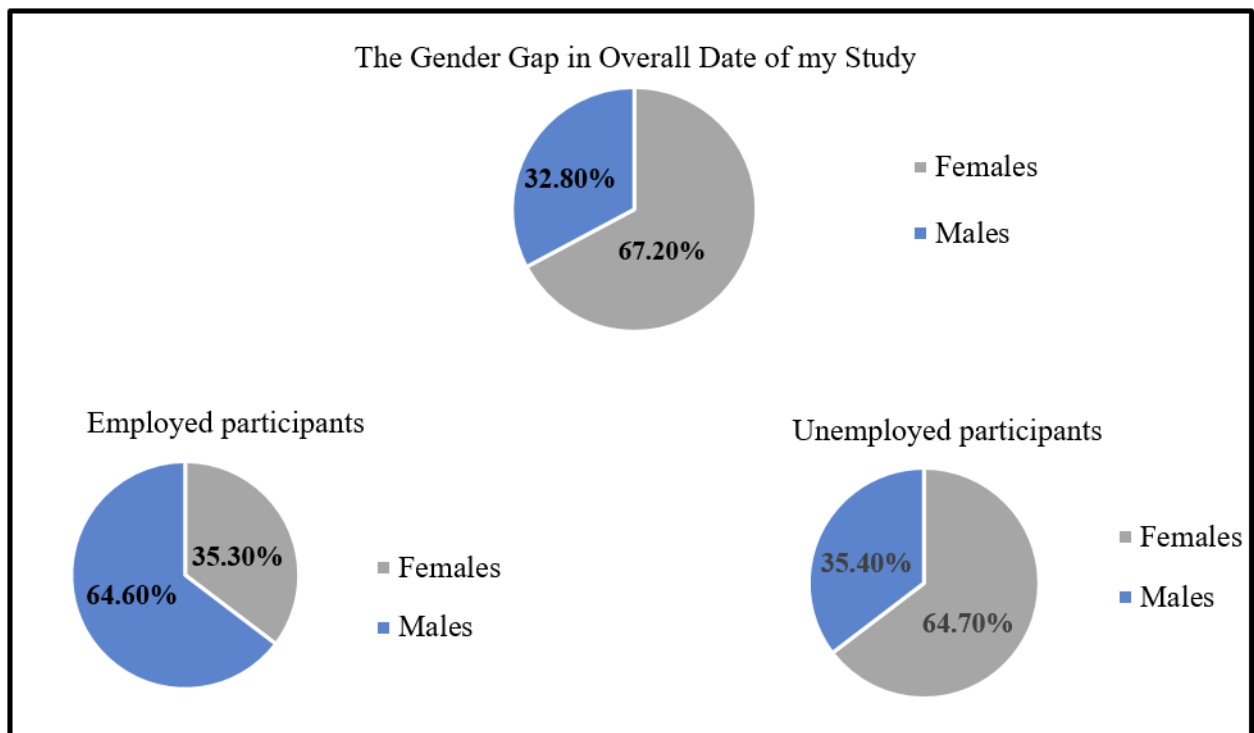


Figure 5.2: The Gender Division in my Study

In the case of Saudi women employees, because their leisure time is limited, they often allocate it to high-priority tasks such as family duties, including looking after children, or social obligations such as visiting their parents. This leads to female employees having little time to focus on MOOCs and results in their limited use. Specifically, when looking at employees' responses, 47.5% reported that they use MOOCs between one and three times each week, while another 26.8% reported using MOOCs a few times a month. In addition, other possible explanations are that the current subjects of MOOCs may be beyond female employees' interests or the subjects may not meet their needs. It is possible that female employees are more attracted to subjects related to their social lives and families. However, while addressing gender disparities, Macleod et al. (2015) linked the differences in gender to the field of the course taught. Thus, they claim that the gender representation in MOOCs reflects gender differences in university courses. For example, Macleod et al. (2015) found that in technical subjects, there were more men than women, whereas in subjects such as nutrition women comprised the majority. Further investigation may be needed to understand whether there are differences between men and women regarding their needs within MOOC courses.

Indeed, many participants in the survey and interviews expressed their interest in seeing MOOCs that cover more fields and that aim to help participants solve the problems they face in society or at work. Their suggestions included adding MOOCs focusing on personal improvement and self-confidence as well as parenting and children, including the parenting of autistic children. Generally, the main topics that my participants suggested were English as a second language; computer science and software; arts, including drawing, jewellery making, and designing logos; Islamic law and explication of the Holy Quran; history; engineering; public relations and media; accounting, financial management and human resources management; and science, including sociology, psychology, physics, and medicine. In addition to these suggestions, Ghadah suggested targeting children by providing MOOCs that aim to

teach them about the Holy Quran and languages. Ghadah justified her suggestion by pointing out that, starting at five years of age, children own smart devices that can be exploited for educational purposes in their free time and this renders them enthusiastic and ambitious about learning.

However, Saud stated in his interview that he asked the platform many times to provide specific MOOCs but was frequently informed that the problem was the lack of teachers who are both experts in these topics and willing to cooperate in the presentation of MOOCs. Saud and Faisal commented that Saudi universities are failing to cooperate with Saudi MOOC platforms and this contrasts sharply with foreign platforms such as edX and FutureLearn, for which there are many universities that have become partners and that encourage their teachers to create MOOCs. Ahmed compared MOOCs in his electrical engineering major that he has taken in foreign platforms such as edX and FutureLearn with MOOCs in Arabic platforms such as Rwaq, Maharah, and Edraak: “I just found two MOOCs in Arabic platforms which are related to my major of electrical engineering! ... The number of specialised MOOCs is very few in our Arabic platforms, but in foreign platforms there are too many.” The conservativeness of Arab universities, especially in Saudi Arabia, could make them relatively cautious in their steps towards supporting open learning or posting courses for the public. I discovered that this was true because, although some teachers who created MOOCs were faculty members in Saudi universities, the majority were volunteers working without any support or encouragement from their universities.

### **5.2.1 How Participants Discover MOOC Platforms**

Participants were able to select from options to identify how they first discovered MOOC platforms. The options are as follows: from my colleagues in my learning institution, from my employer, or none of above. The respondents’ results are shown in Table 5.2.

Table 5.2: How Participants Discover MOOC Platforms

Answer	Frequency	Percent (%)
From my colleagues in my learning institution	41	14.1
From my employer	7	2.4
None of the above	242	83.4
Total	290	100

The results show that 83.4% of participants did not discover MOOC platforms through their colleagues or their employer. A smaller percentage (14.1%) of participants discovered MOOC platforms through their colleagues, and only 2.4% learn about MOOCs from their employer.

From this data, there is an apparent lack of clarity regarding how the majority of participants discovered MOOC platforms. Indeed, before I started the interview with Bader, he asked me what ‘MOOC’ meant. In addition, I noticed that some of the participants did not understand the concept of MOOCs or even did not have any previous ideas about the rules of the platforms because they thought that MOOCs required participants to register at the beginning of the course. Thus, they asked if it was possible to proceed through the course normally if they joined after some lectures had already been posted. Some participants informed me that they were not familiar with any platforms other than the platform used for this study. Participants’ questions and responses gave me an insight into their (lack of) wider awareness with regards to MOOCs. The study of White et al. (2014, p.8) found that 55.8% of MOOC learners were the first among acquaintances, family, friends, and colleagues to participate in a MOOC; however, the results showed that 124 out of 285 respondents discovered MOOCs via social media and then decided to take part (White et al., 2014, p.8). I think understanding how participants found out about MOOCs and how much they knew about them are key points that could be investigated in further research. This could help improve the marketing of MOOCs and increase the attraction of learners who might benefit. In this regard, Basu (2018) suggests creating a plan or strategy

to help raise awareness about online courses. These suggestions include sending posters through email or social media about the course contents and the method of learning, promoting the courses on teachers' blogs, publishing promotion videos about the courses on YouTube (because videos rank higher than websites in the results of many search engines; thus, the video descriptions must include popular keywords related to the course titles), speaking at local events, starting a local Meetup group about the courses and how they could help people, writing press releases about the platform and fields available, and sharing infographics about the methods of learning on Pinterest (Basu, 2018). In addition, Sanchez-Gordon et al. (2015, p.4) propose other strategies to increase MOOC enrolment of public sector employees in particular, such as: keeping MOOCs cost free for participants; offering preliminary free training to develop digital literacy skills and become an independent learner; offering MOOCs in the employees' native languages; providing attractive and interesting MOOC contents according to institutional needs to improve employees' knowledge in the workplace; acquiring sponsorships from prestigious universities and organisations to provide a formal certificate of completion; and providing incentives in the workplace. These strategies could help more people benefit from MOOCs and acquaint themselves with the method of learning used in such courses.

### **5.2.2 Participants' Main Aim for Using MOOCs**

For this question, participants identified their main reason for using MOOCs from the following list: gaining more information about my subjects, gaining more experience for professional development, or I am only interested in online learning. The participants selected the options described in Table 5.3.

Table 5.3: Distribution of the Participants' Main Aim for Using MOOCs

Answer	Frequency	Percent (%)
Gaining more information about my subjects	14	4.8
Gaining more experience for professional development	174	60
I am only interested in online learning	102	35.2
Total	290	100

The results show that 60% of participants used MOOCs for professional development, and 4.8% used MOOCs for educational development. In addition, 35.2% were interested in learning courses online. According to the report from the Communications and Information Technology Commission (CITC, 2008), online learning is widely accepted by most Saudi people for many reasons. The majority (74%) find that online learning provides them with the information they need in a convenient manner (CITC, 2008), while another 71% feel that it helps them to keep abreast of up-to-date information and believe that online learning is crucial for today's generation (CITC, 2008). Generally, based on my participants' responses, I found that university students showed a greater interest in gaining skills that will improve their professional knowledge and performance in their current or future jobs rather than in degrees. This finding was in line with studies such as De Coutere (2014), Karnouskos and Holmlund (2014), Lim et al. (2017), and Vivian et al. (2014), where the majority of MOOC participants were aiming for professional development using flexible methods. This area was expanded and is covered within Section 5.3 because after getting the responses from the survey I realised this would be an important area to explore.

### 5.2.3 Participants' Occupations

Participants were asked to select their occupation from a list of the most common occupations: student in secondary school, undergraduate student, postgraduate student, job seeker, employee, or none of the above (in the case of selecting “none of the above”, the participant was able to specify his or her job in a small box). However, two of the respondents did not answer this question. Table 5.4 shows the occupations of the study participants.

Table 5.4: Distribution of the Participants' Occupations

Answer	Frequency	Percent (%)
Student in intermediate or secondary school	13	4.5
An undergraduate student	70	24.1
A postgraduate student	39	13.4
A job seeker	65	22.4
An employee	82	28.3
No answer	2	0.7
None of the above	19	6.6
Total	290	100

The data showed that MOOC participants covered a range of occupations, including housewives, which confirmed the findings of Ghosh (2014) and Schulz (2014). The results of this study indicate that the highest percentage of respondents were employees (28.3%), which is in line with the findings of previous studies such as Christensen et al. (2013), Karnouskos and Holmlund (2014), Kop et al. (2011), Macleod et al. (2015), and Zhenghao et al. (2015), where the majority of participants were employed professionals from various backgrounds. In addition, my findings demonstrated that 24.1% were undergraduate students and 22.4% were job seekers. Twelve of my participants were students in secondary school, most of whom were aged between 16 to 18 years. Unexpectedly, I found one of my respondents was in intermediate school, where students are usually between 13 to 15 years old. This may confirm the

importance of considering the needs of school students and housewives in providing MOOCs that are interesting and more useful to them. Clow (2013) claims that because MOOCs are relatively new, studies that discuss MOOC participants' occupations are scarce. Further research or exploratory surveys via the platforms themselves could help in understanding the occupations of all participants in order to satisfy their needs.

#### 5.2.4 Highest Academic Qualification

In this question, participants were asked to state their highest academic qualification from the following list: high school, Bachelor's degree, Master's degree, Doctorate, or others. However, one of the participants did not answer this question. All results can be seen in Table 5.5.

Table 5.5: Distribution of Participants' Highest Academic Qualifications

Answer	Frequency	Percent (%)
High school	70	24.1
Bachelor	166	57.2
Master	28	9.7
Doctorate	6	2.1
No answer	1	0.3
None of the above	19	6.6
Total	290	100

A significant number of participants, 166, had a Bachelor's degree as their highest academic qualification. Those who had finished high school were the next highest percentage at about 70 respondents. Furthermore, 28 participants had gained a Master's degree, and six had gained a Doctorate. On the other hand, the highest academic qualifications for the participants who answered "None of the above" varied; for example, 12 had a diploma and four had postgraduate



diploma. However, some had not yet graduated or were still in intermediate school or high school.

The learners' qualifications in my study are in line with the results of previous research, such as the data from Coursera (Universities UK, 2013) and the studies of Despujol et al. (2014), Laurillard (2014), Karnouskos and Holmlund (2014), Lim et al. (2017), Vivian et al. (2014), Ghosh (2014), Kop et al. (2011), and Zhenghao et al. (2015), where it is evident that most MOOC participants are qualified and hold formal degrees. In addition, according to the 34,779 survey responses from the University of Pennsylvania, MOOCs that were offered by Coursera Inc., a venture-capital-backed for-profit company, the majority of learners already had two-year or four-year college degrees and their levels of education exceeded that of the general population in their country (Ostrow, 2013). Moreover, the study of Christensen et al. (2013, p.4) demonstrates that learners possess high levels of educational attainment: 83% of MOOC learners have a post-secondary degree, 79.4% have a Bachelor's degree or higher, and 44.2% indicate education beyond a Bachelor's degree. MOOCs might attract more people who gained experience with online learning during their academic studies as such individuals would be more confident and familiar with the online method of learning.

### **5.2.5 Number of Times MOOCs are Used**

All participants stated how often they used MOOCs by selecting one of the four choices: daily, one to three times/week, four to six times/week, or a few times a month. The results of this question are shown in Table 5.6.

Table 5.6: Distribution of the Number of Times Using MOOCs

Answer	Frequency	Percent (%)
Daily	24	8.3
1 ~ 3 times/week	144	49.7
4 ~ 6 times/week	37	12.8
A few times a month	85	29.3
Total	290	100

The results show that a significant percentage of participants, 49.7%, used MOOCs one to three times a week, whereas 29.3% used MOOCs a few times a month. From this result and the results of participants' occupations, it can be suggested that most people who were partaking in MOOCs had to fit them around other study or around a full-time job, and this might have been during their break days, such as on weekends. Onah et al. (2014a, p.8) found that MOOC participants have busy schedules and as a consequence regular study is difficult, but they are keen to make bursts of progress when possible. According to Gatrell (2015), to make the best use of MOOCs, it is important that participants commit and stick to a certain number of hours per week; the number of hours should depend on each participant's own goals and the activities he or she chooses to focus on. In addition, Gatrell (2015) argues that participants should study "little and often" throughout the week instead of in one long session each week. In addition, Chang et al. (2015, p.538) report that learners in MOOCs need to take personal responsibility because research has confirmed that willingness, self-discipline, and self-direction are critical factors in their success. This indicates that to get the most out of MOOCs, participants should organise their schedules to enable them to learn weekly rather taking a break for more than a week and then watching numerous lectures at once when they return. This process might help with linking the information from lectures more easily and effectively.

### 5.2.6 Number of MOOCs that Participants have Joined but not Completed

All participants in this study had joined at least one MOOC. However, participating in more than one MOOC could be a sign of satisfaction with the process of learning through MOOCs, so I added a question relating to the number of MOOC participants had joined but had not yet completed followed by a question about the number of MOOCs that participants had completed. Table 5.7 shows the results of the first question.

Table 5.7: Distribution of the Number of MOOCs that Participants have Joined but not Completed

Answer	Frequency	Percent (%)
1 ~ 3 courses	202	69.7
4 ~ 6 courses	59	20.3
7 ~ 9 courses	15	5.2
More than 9 courses	14	4.8
Total	290	100

The results from Table 5.7 reveal that the majority of participants (approximately 69.7%) had joined but not completed between one to three MOOCs. On the other hand, the lowest percentage (4.8%) demonstrates that few participants had joined but not yet completed more than nine MOOCs.

Although the finding from this question did not provide useful inferences, as I mentioned in the Methodology Chapter (Section 4.5.2.2), joining numerous MOOCs simultaneously is possibly a symptom of the fact that it is very easy to join a MOOC without needing to be accountable to others. Haggard et al. (2013, p.8) and Liyanagunawardena (2015, p.38) state that enrolment in MOOCs is simply not a significant decision and that participants in MOOCs

can enter and leave with no penalties for non-completion. This is likely to be different to most other courses, especially at a university.

### 5.2.7 Number of MOOCs Completed by Participants

This question helped me to understand the extent of participants' experience in learning via MOOCs by asking how many MOOCs they had completed. Table 5.8 presents the results of this question.

Table 5.8: Distribution of the Number of MOOCs Completed by Participants

Answer	Frequency	Percent (%)
1 ~ 3 courses	225	77.6
4 ~ 6 courses	39	13.4
7 ~ 9 courses	15	5.2
More than 9 courses	11	3.8
Total	290	100

The results reveal that 77.6% of participants completed one to three MOOCs; however, a considerable number of participants had completed more than three MOOCs.

Although analysing this question did not provide fine enough detail, as mentioned in Section 4.5.2.2, I think it would have been more productive if the question choices had been more specific (for example, one course, two courses, more than two courses, etc). The finding that 13.4% of participants have completed more than three MOOCs indicated that they were familiar with open online courses and they may have found them useful for their lives. In addition, this could have been a sign of high motivation besides the convenience of the methods used in MOOCs.

### 5.2.8 MOOC Tool(s) Used by Participants

I think it is important to be aware of which tools the participants used whilst taking part in a MOOC because this helps us to understand which types of learning materials they preferred and to determine which tools need to be modified to be more exciting for learners to use. Thus, I included a question where the participants checked all the applicable tools they used for their MOOC studies:

- Forums
- Wall posts
- Assessments (peer-assessment or e-assessment)
- Videos
- Reading material posted in the course (e.g., PDFs or slide presentations)

Table 5.9 presents the results of this question with the percentage of participants using each tool.

Table 5.9: Distribution of MOOC Tool(s) Used by Participants

Answer	Frequency	Percent (%)
Forums	129	44.5
Wall posts	131	45.2
Assessment (peer-assessment or e-assessment)	125	43.1
Watching videos	276	95.2
Reading materials posted in the course such as PDF files or slide presentations	271	93.2

From Table 5.9, it can be seen that about 276 participants watched videos when learning in a MOOC, which means that videos are the most commonly used tool, followed by written materials such as PDFs. My findings are similar to Belanger and Thornton's (2013) research,

where Duke University students who joined a MOOC at Coursera predominantly used video resources. Interestingly, their research findings show that most course activities, including watching videos, were at their peak at the beginning of the course, then they declined sharply every week (Belanger and Thornton, 2013, p.8).

According to Kizilcec et al. (2013, p.172), those participants, called “auditing learners”, mostly just watched the videos and rarely completed the assessments, having no intention of obtaining the certificate of accomplishment. This result may indicate why the most frequently used pedagogical means on many platforms is lecture videos and discussion forums (Zhan et al., 2015), perhaps because of their common use by the participants. Assessments (peer-assessment or e-assessment) were the least-used tool by my participants, possibly because MOOCs are informal and learners often join these courses to benefit from them without needing to evaluate their usefulness by testing.

Having examined age, gender, occupations, the main aim for using MOOCs, and the highest academic qualifications for those who used each tool (forums, assessments, videos, PDF materials, and slide presentations), the demographic characteristics of my participants who used each tool remained similar to the general characteristics of the participants in my study. For example, the highest percent of participants who used assessments or who participated in the MOOC forums were aged 25 or younger, female, city dwellers, already employed, mainly aimed at professional development, and were well-educated (the majority had at least a Bachelor’s degree). In contrast, Shrader et al. (2016, p.11) found that the employment statuses of participants who often watched lectures but rarely did quizzes were mostly ‘retired’. Shrader et al. (2016, p.11) analysed this finding by claiming that older students are highly likely to watch lectures without feeling a need to assess their knowledge. I was unable to compare this result with my data since I had just one participant aged 55 and above and this participant took part in all the learning activities, including the assessments. Comparing only one participant

with many people who share the same age group would not be viable. However, although Shrader et al. (2016, p.11-12) expected that the students would mostly use the assessments to complement their university courses, the participants who often did the quizzes in their study were equally distributed among all the demographics of sex, age, education, and employment. Because the most general means used in MOOCs is videos, it is crucial to take more care in producing videos that satisfy participants' expectations and facilitate their learning. In addition, this finding highlights the importance of thinking about effective strategies that activate the use of other means in MOOCs, such as discussions and assessments. Further discussion about these means, their pedagogical benefits, and how to improve them based on the literature and learning theories is provided in Section 5.4.

In conclusion, the data from my participants revealed that the majority of MOOC participants had a Bachelor's degree and were employed outside the home. This might be because many MOOCs satisfied their needs as they usually focused on improving professional skills. The demographics of Saudi learners in terms of their occupations and backgrounds appear to be similar to other groups of learners in studies on different platforms by other researchers. However, Lim et al. (2017, p.4) state that critics have noted that MOOCs attract groups of participants already interested in online learning. Ostrow (2013) argues that because the majority of MOOC learners in the previous studies were wealthier, lived in developed countries, and had obtained higher levels of formal education, some have criticised MOOCs for increasing the disparities between the less-educated and well-educated, especially as their founders often promised to put college courses online in order to benefit the disadvantaged by providing access to these courses for free. Further discussion about this issue is included in the following section.

### **5.2.9 Democratising Education**

Despite the prevailing idea that MOOCs would widen participation in Higher Education, including attracting learners from developing countries, Christensen et al. (2013, p.1) argue that an inadequate number of participants in MOOCs benefit from them. These might be individuals who have financial constraints that prevent them from joining formal courses for credit; individuals with disabilities; or those living in rural communities where there is no access to high-quality education. This indicates that merely putting university courses online for free is not enough to achieve the goal of MOOCs to democratise education and provide high-quality education to those who cannot afford university learning for either economic or political reasons. To make a genuine offer to such people would require more work than simple course 'availability'. I discuss this issue further in the Recommendation Chapter. Perhaps the majority of MOOC learners are college degree holders because their courses are academic but did not lead to a degree; thus, they attracted learners who were self-motivated and knew already how to access and benefit from MOOCs. Well-educated learners are presumably more confident with online learning environments because they would have already experienced them during their academic studies, whereas the less-educated might be unfamiliar with such platforms and struggle more with online academic courses, especially if they have not experienced online learning environments before. Therefore, because most current participants in MOOCs are likely to have had experienced accessing and using online learning resources during their university studies, using online learning tools is not a barrier. In this way, we may see MOOCs as part of a repertoire of lifelong learning habits developed by those who have already attended university. In addition, MOOCs need an Internet connection with high speed, and this requires a subscription to Internet providers with monthly charges. To make MOOCs accessible to those who do not have access to high-quality education, Bayeck (2016, p.231) suggests that:



Developers and MOOC providers might need to democratize MOOCs' distribution. For example, partnering with organizations (e.g., non-governmental organization, or community centers) that work with individuals in financial need might be an excellent approach to reach and attract low-income individuals. MOOC providers may use those organizations as centers individuals can visit to enroll into MOOCs and even take MOOC since this population does not always have access to the Internet. The aforementioned strategy might make MOOCs more accessible to economically disadvantaged or non-college holder individuals. Engaging with governments around the world, specifically in emerging or developing countries might be another approach to making MOOCs accessible to masses.

Interestingly, although there are MOOC platforms owned and founded by Saudi initiatives or ministries, the target learners for these platforms seem not to be the same as in UK or USA platforms, (as explained previously in the Context of the Study, Section 2.1). Different countries have different education policies. In July 2016, the Saudi Ministry of Education announced that more than 75% of Saudi high school graduates in that year had seats at the 28 Saudi public universities, and these seats did not include the seats provided by private universities and colleges or technical and vocational training corporations (AlSahli, 2016). This highlights that post-secondary education is strongly supported by the Saudi government since they offer high-quality university education free of charge for the majority. For this reason, it is assumed that Saudi MOOC learners are knowledge seekers and the majority are supposed to be university students or graduates.

One exception is the Saudi Rwaq platform, which reflects the goals of MOOC founders to help provide education for Syrian people who are deprived of education because of the political crisis in their country (Khatib, 2016). In doing so, Rwaq and the Raf Foundation for Humanitarian Services have made a "Sindyayn" initiative focused on the benefits of the Rwaq experience in open learning because it is the largest Arab platform in terms of the number of courses and students and the founders seek to communicate with universities to develop educational programmes officially recognised by these universities in cooperation with the Raf Foundation (Khatib, 2016). Fouad Al-Farhan points out that some universities, such as Alzaiem

Alazhari University, Sudan, have expressed their readiness to participate in the initiative to provide officially recognised educational materials, tests, and certificates (Khatib, 2016). As I discuss later, this has implications for the recommendations I make in relation to my research.

### 5.3 Saudi Participants' Perceptions of the Impact of MOOCs on their Lives

One of the sub-questions of this study was how Saudi learners perceived the relevance of the content of MOOCs to their lives. According to Veletsianos et al. (2015), few studies have attempted to understand individuals' experiences of MOOCs and why they engage in particular ways in the courses' activities. Similarly, Alraimi et al. (2015) found that there is a limited amount of research exploring the learners' reasons for using MOOCs and the factors that enhance their intention to use these courses. Thus, it was important to understand participants' perceptions of the effects of MOOCs on their lives because their perceptions would allow us to recognise their motivations and the benefits they have gained from MOOCs; this, in turn, will help us to design courses that satisfy their needs and promote their continued learning via MOOCs. In addition, understanding the effectiveness of MOOCs in participants' lives could indicate the feasibility of employing high-quality open online courses aimed at developing Saudis both professionally and educationally. Moreover, Schneider and Kizilcec (2014, p.1) state that "reliably ascertaining learners' reasons to enroll is instrumental for scaling and personalizing the online learning experience". However, if participants did not obtain much usefulness in using MOOCs, then there would have been high dropout rates as well as a decrease in confidence in the content of MOOCs. Table 5.10 displays a record of the participants' rating of Part 1 of the survey, which was related to the impact of MOOCs on their lives.

Table 5.10: Part 1: The Impact of MOOC on your Life

No	Statements	Likert Scale					Mean	Std. Deviation	Rank	
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree				
1	MOOCs provide learners access to Higher Education.	Freq.	102	108	67	12	1	4.03	0.884	14
		%	35.2	37.2	23.1	4.1	0.3			

No	Statements	Likert Scale					Mean	Std. Deviation	Rank	
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree				
2	MOOCs facilitate learning for people with special needs.	Freq.	218	50	20	1	1	4.67	0.651	7
		%	75.2	17.2	6.9	0.3	0.3			
3	MOOCs provide information and references which are useful for academic researchers.	Freq.	122	121	33	10	4	4.20	0.872	12
		%	42.1	41.7	11.4	3.4	1.4			
4	Some MOOCs are helpful for professional development, which is very useful for Saudi employees.	Freq.	175	100	11	4	0	4.54	0.639	9
		%	60.3	34.5	3.8	1.4	0			
5	MOOCs provide an opportunity for continued lifelong learning.	Freq.	234	48	8	0	0	4.78	0.477	4
		%	80.7	16.6	2.8	0	0			
6	Using MOOCs in Saudi universities can help students improve their level of education.	Freq.	197	80	12	1	0	4.63	0.581	8
		%	67.9	27.6	4.1	0.3	0			
7	Learning through MOOCs has increased my confidence.	Freq.	171	89	26	4	0	4.47	0.716	10
		%	59	30.7	9	1.4	0			
8	Learning by MOOCs develops the process of self-learning.	Freq.	228	60	2	0	0	4.78	0.432	3
		%	78.6	20.7	0.7	0	0			
9	Producing MOOCs in English represents an obstacle for some Saudi learners.	Freq.	112	111	54	10	3	4.10	0.892	13
		%	38.6	38.3	18.6	3.4	1			
10	MOOC platforms provide suitable technical support.	Freq.	72	124	85	6	3	3.88	0.840	15
		%	24.8	42.8	29.3	2.1	1			
11	MOOCs are good starting point to learn some new subjects.	Freq.	209	75	6	0	0	4.70	0.502	6
		%	72.1	25.9	2.1	0	0			
12	My motivation for learning in MOOCs increases when certified academic certificates are provided.	Freq.	228	42	17	3	0	4.71	0.623	5
		%	78.6	14.5	5.9	1	0			
13	My motivation within MOOCs increases when I feel the content is useful to my life.	Freq.	256	31	3	0	0	4.87	0.364	1
		%	88.3	10.7	1	0	0			
14	I intend to study other courses via MOOCs.	Freq.	242	42	6	0	0	4.81	0.440	2
		%	83.4	14.5	2.1	0	0			
15	Learning via MOOCs helped me develop personal skills in learning such as time management, and self-discipline.	Freq.	161	92	29	8	0	4.40	0.779	11
		%	55.5	31.7	10	2.8	0			
General Mean = 4.50										

In the above table, the results of the 15 statements are ordered in rank from the highest to the lowest mean. According to the general mean of all statements in Table 5.10 (4.50) it is clear that respondents' answers were generally "strongly agree". Specifically, the mean score of most statements is between 4.87 and 3.88, which means that most responses were between strongly agree and agree.

Generally, the impact of MOOCs on participants' lives were classified into subthemes, as shown in Table 5.11. Most of these subthemes emerged in more than one method or were emphasised in explanations from many participants, and this affirms the importance of these subthemes. Table 5.11 shows each subtheme with the specific sources of data collection used for each one.

Table 5.11: Themes Developed about Participants' Perceptions of the Impact of MOOCs on their Lives

Theme		Sources			
		Survey	Observation	Interviews	Quantitative Data
5.3.1 Motivation to Learn MOOCs		√ (1-2-5-12-13-14)		√	
5.3.2 MOOCs Benefits	5.3.2.1 Professional Development	√ (4)		√	
	5.3.2.2 Self-Development	√ (7-8-15)		√	
	5.3.2.3 Access to Information of Interest	√ (11)		√	
	5.3.2.4 Development in Academic Specialisation	√ (3-6)		√	
5.3.3 Completion Rates		√ (9-10)	√	√	√

It is important to note that the themes of “Motivation to Learn MOOCs” and “MOOCs Benefits” are sometimes discussed together in the literature reviews to explain the same idea regarding the individuals’ reasons for taking MOOCs. However, I divided the idea of the individuals’ reasons for taking MOOCs into two themes: the first is “Motivation to Learn MOOCs”, which discusses the characteristics of MOOCs that encourage individuals to enrol and to appreciate using the MOOC mode of learning, and the second theme is about “MOOCs Benefits”, which discusses the usefulness obtained by completing MOOCs and how this changed participants’ lives personally, educationally, and/or professionally. The following section explores the subthemes of the participants’ perceptions about the impact of MOOCs on their lives in further detail.

### **5.3.1 Motivation to Learn MOOCs**

Understanding participants’ motivations that led them to think about starting a MOOC can shed light on the specific features that attracted Saudi learners. Interestingly, research by Bonk et al. (2015, p.317) has suggested that learners who are interested in engaging with learning through a MOOC need high motivation as well as self-efficacy. According to Akhtar (2008), self-efficacy is self-belief in our own abilities and competence in terms of successfully accomplishing a task and meeting a favourable outcome. In my study, the findings show that the flexibility of time and location of the MOOCs motivated people who had the desire to learn. The flexibility of learning via MOOCs inspired my participants, especially when they encountered obstacles such as transport, family commitments, high pressure at work, or simply not having obtained a place in their preferred university specialisation. For example, Lama explained her situation in her interview by saying:

I am living in the north of Jeddah, which is very far from King Abdulaziz University, about 120 km, thus online learning is very helpful for me; it removed my obstacles and

provided me many things while I am comfortable in my home. I wish to make aware people around me of online learning and I wish that online learning improves and gives us everything that is needed and would be of relevance to our lives.

Lama had what Bonk et al. (2015) referred to as “freedom of place” to learn. Lama’s situation is not surprising since the easy access to online learning is a feature of MOOCs. According to Lim et al. (2017, p.2), the potential of MOOCs to provide 24-hour access to information, cost effectiveness, and self-paced learning have attracted millions of people worldwide. This finding in my research was in consistent with the literature reviews. For example, 7% of participants in Belanger and Thornton's (2013, p.10) study reported that they joined MOOCs because they were geographically isolated from learning institutions. In addition, in the studies of White et al. (2014, p.8) and Zhong et al. (2016, p.955), the fundamental aspect that motivates the majority of learners to follow MOOCs is the ability to access the material as these courses are online and freely available with no obligation to complete them, meaning they are convenient for participants fitting their study time around their lives. As a consequence of the openness aspect, MOOCs in turn improve the quality of online courses (Bonk et al., 2015).

Furthermore, the majority of survey respondents strongly agreed, with a mean of 4.67, with the statement “MOOCs facilitate learning for people with special needs”. According to Sanchez-Gordon and Luján-Mora (2013), aging often causes several challenges such as hearing loss, vision decline, cognition issues, and decremented motor skills. In these cases, they argue, MOOCs can bring fantastic opportunities for inclusion and enabling older people to learn in learning communities that enhance their quality of life. Still, MOOCs may present a significant challenge for those with disabilities since the main materials are videos which often contain large amounts of text or very dense content (Sanchez-Gordon and Luján-Mora, 2013). Although using the traditional captions enables full access to videos for deaf and hard hearing MOOC participants, integrating captions with the visual text within videos sometimes results

in cognitive overload and visual dispersion, decreasing learning among participants who need captions (Kushalnagar et al., 2013; Sanchez-Gordon and Luján-Mora, 2013). The results of Kushalnagar et al. (2013, p.4) show that using captions for displaying speech-to-text content in videos are preferred by learners in typical use cases, whereas transcripts, with their longer content, are preferred for more technical content. Thus, MOOCs may benefit participants by providing “real-time transcripts, in place or in addition to their typical on-screen captions” (Kushalnagar et al., 2013, p.4).

In addition, Sanchez-Gordon et al. (2015, p.4) assert that in order to make MOOCs serve both disabled and non-disabled users, it is important to ensure that they have adequate levels of accessibility for both groups. Thus, the authors propose several strategies to improve the accessibility of MOOCs (p.4). One of the main strategies is an evaluation of the MOOC’s accessibility by experts and participants with different types of disabilities (p.4). Kawachi (2013, cited in Bonk et al., 2015, p.123) found that making the Open Educational Resources (OER) extremely open for learners with special needs improved the quality of the courses in many areas: content and information, learning and teaching, and technology and presentation.

In fact, in my study, many participants used a MOOC mainly to support lifelong learning with no intention of moving through the course in a traditional way. This helped them to improve their thinking and live better. MOOCs represented a feasible means of opening up prospects for them. The majority of Saudi participants in this study strongly agreed with the statement “MOOCs provide an opportunity for continued lifelong learning” with a mean of 4.78. This is not surprising since the research of Belanger and Thornton (2013) highlights many categories that influence student motivations: firstly, to support lifelong learning without any expectations for either achievement or completion or gaining an understanding of the subject matter; secondly, for fun, social experience and intellectual stimulation; and thirdly, in order to experience online education. All of these categories of motivations were consistent with my



participants' motivation. Interviewees explained the approach of using MOOCs as a lifelong learning tool and provided justifications in different ways. For example, Lama used the saying "Knowledge is from the cradle to the grave", thus emphasising that completion of a university study programme is not the end of learning new knowledge. Lama's saying is a well-known expression in Arabic culture which motivates people to seek knowledge for the duration of their lives. From another perspective, many interviewees emphasised that using MOOCs helped them find balance among their different roles. They asserted that from their experiences with engaging in MOOCs, they could educate and improve themselves and at the same time fill their roles to the fullest, whether they were university students, employees, housewives or mothers. Danah explained her experience as follows:

Even when I am in my home, I can customise some of my time so I become able to take care of my kids as I am sitting with them and at the same time I can download the materials and watch videos... The videos were more attractive than reading a book, which probably takes an hour... I can also listen to the videos by using headsets while I am practicing my hobby of walking inside my home.

My findings have indicated that MOOCs can enable learners to achieve a sense of work-life balance. Research by Ferguson and Sharples (2014, p.101) has focused on the implications of education on a massive framework. Their findings, which consider both the challenges and benefits of MOOCs, suggest that MOOCs do offer the learner the opportunity to learn new knowledge and to fit their learning around the other activities in their lives. However, as demonstrated by Danah's comments above, my findings contradict other research findings by Zheng et al. (2016, p.210) which indicate that full engagement with a MOOC course takes over a learner's life and they do not have any sense of work-life balance. This area seems to require further investigation to understand whether MOOCs need full commitment or can be participated in around our other life activities.

Regardless of participants' status in my study, there were individuals who expressed their sense of fun in learning these courses, even when they were busy with other things, such as driving

or cooking. Consequently, MOOCs were often used in similar ways to using social media, radio and television (Yuan and Powell, 2013). This agrees with the findings of many studies (i.e., Belanger and Thornton, 2013; Kizilcec et al., 2013; Macleod et al., 2015; and White et al., 2014) that found that one of the most common perceptions about MOOCs is seeing them as a sort of “edutainment” to stimulate intellectual development. Using MOOCs while participants are engaging in other things, such as driving, taking care of their children or cooking, could be a result of the ability to listen to the videos while performing other tasks. This might be because most of the MOOC platforms provided application software to facilitate access to MOOCs from smart phones, and this enables participants to use their headsets to prevent disruption.

In addition, some interviewees believed that MOOCs facilitated the enthusiastic return to education of those who had stayed away from formal education because of their personal circumstances. Faisal confirmed this point, as he claimed that he read about someone who completely depended on himself to learn programming. In this regard, because of the increasing population in many countries, such as South Korea, open learning is used to achieve lifelong learning and increase the accessibility of education for all (Scott, 2017). Therefore, South Korea established the K-MOOC platform, which is geared towards Higher Education aiming to provide university credit and degrees for participants who are unable to participate in Higher Education (Scott, 2017). Singapore is another example of employing MOOCs to encourage Singaporeans to develop deep skills. The Singapore government has implemented SkillsFuture, a nationwide movement, in support of the Continuing Education and Training (CET) (Lim et al., 2017, p.3). SkillsFuture helps participants to master skills by offering a variety of resources regardless of participants' number of schooling years or the length of their career (SkillsFuture, 2017). Through this movement, every individual's skills and contributions will drive Singapore's next phase of development towards an advanced economy and inclusive

society (SkillsFuture, 2017). Therefore, MOOCs can also be used to educate Saudi people, especially in the areas of high demand in the labour market such as programming, marketing, and telecommunication.

Moreover, the teaching provided by academic experts has been argued to be a positive factor for learners in my study. My interviewees confirmed that MOOCs were provided by trusted experts in a variety of fields with the possibility of learning more through MOOCs in different fields at the same time and by using any of the preferable materials, such as videos or PDFs. Therefore, participants could gain experiences and information on a wide range of topics. Research by Eckerdale et al. (2014, p.9-14) based on information obtained from qualitative interviews using open-ended questions found that amongst other factors that academics with experience of MOOCs perceived that the positive effect of MOOCs was that students valued being taught by top academics.

Interestingly, many Saudi participants stated that they joined MOOCs that were sponsored by universities on foreign platforms, such as Coursera and edX. Breslow et al. (2013) found that there are learners who joined MIT MOOC for the personal challenge of seeing whether they could keep up. Survey respondents in my study agreed with the statement that “MOOCs provide learners access to Higher Education”, for which the mean was 4.03. Such participants believed that these MOOCs provided insights into courses taught in-person at those particular universities. Thus, they wanted to try university courses before enrolling at these universities officially, or they merely wanted to satisfy their curiosity by accessing courses produced by universities they admired. For example, Latifah said:

Honestly, when I saw these MOOCs, they gave me motivation. Thus, I decided to improve myself by learning English because I am always thinking that if I do not get a chance to have a scholarship for studying abroad, I could have the chance to study some open courses that are sponsored by universities such as Yale or Stanford. I may not study all the Bachelor’s courses, but I could learn some useful courses in my field of interest.

Latifah may have felt a sense of prestige by engaging in a course from a prestigious university. In White et al.'s (2014, p.9) study, half of the respondents (about 48.1%) identified "the provider was a world-class university" as a factor that attracted their participation. The offering of MOOCs by a prestigious university was also mentioned by participants in the study by Belanger and Thornton (2013, p.9). In addition, Bayeck's (2016) study indicates that one of the main motivations for participants to enrol into the MOOC was reputation, which encompasses both professors (91.6%), and the institution (65.5%). Zhong et al. (2016, p.956) argue that "MOOCs are helpful to increase an institution's reach and even the prestige because they could attract a large number of students in worldwide". Indeed, Hubbard (2014, p.18) states that learners obtain a sense of prestige if they receive a certificate from a MOOC taught by an admired academic or university. In this regard, the majority of my participants agreed completely with the statement "My motivation of learning in MOOCs increases when providing certified academic certificates", which indicates that these participants would also like to benefit from the certificates of accomplishment obtained by using the MOOCs in order, perhaps, to enhance their CVs and increase their chances of gaining their dream jobs. In the study by Hew and Cheung (2014, p.45), one of the main reasons for signing up for MOOCs is the desire of participants to collect as many completion certificates as possible. Obtaining certificates may help participants to feel successful, which increases their motivation to learn. However, in my study, many participants were interested in the usefulness of MOOCs to a greater extent than they were in how to prove their learning to others; thus, they were highly likely to complete MOOCs that impacted on their lives in different ways, such as personally, educationally, or professionally. Indeed, the majority of the survey respondents strongly agreed with this point since their responses to the statement "My motivation within MOOCs increases when I feel the content is useful to my life" had a mean of 4.87. This finding is similar to the results of other researchers such as Goh et al. (2017), White et al. (2014), and Zhong et al.

(2016). I found my participants' interest in the particular content of MOOCs similar to that of some participants in the study of Chang et al. (2015, p.538), where 10.5% of respondents reported that they quit the MOOC once they selected and studied their topic of particular interest from such courses. This demonstrates that many of my participants selected particular topics or contents from each course that matched their needs.

Generally, many interviewees and survey respondents expressed that their experiences in MOOCs gave them motivation to learn even more using MOOCs, similar to the participants in the study by Zhong et al. (2016, p.955), and that they were excited to engage in more MOOCs and had advised their friends and relatives to learn via such courses. This might be a consequence of the adherence attitude that individuals usually display when they like something. This was explained by Jordan when she said that she had become a bit hooked on learning MOOCs since starting her first course (Parr, 2013).

The following theme explains the benefits participants gained following completion of their MOOCs.

### **5.3.2 MOOCs Benefits**

According to White et al., (2014, p.3), it is more feasible to understand the usefulness of MOOCs to participants' lives. The benefits that MOOCs can provide for each individual varies. Gatrell (2015) states that each individual needs to make MOOCs personally relevant by setting their own clear goals, and then be realistic about how and when to achieve these goals. This shows that the benefits of MOOCs depend on each individual's own goals in relation to his or her situation and needs. Generally, many survey respondents expressed positive views about all statements in the survey that were related to the usefulness of MOOCs. In addition, interviewees provided detailed explanations of the benefits of MOOCs to their lives, which

varied according to their jobs and individual needs. These benefits are illustrated in detail in the following sections.

### **5.3.2.1 Professional Development**

This study's data indicates that the main aim of the majority of Saudi MOOC participants (60%) was to gain information and skills that would help them in their current or future job. This view was also confirmed by the majority of my survey respondents in their responses to the statement "Some MOOCs are helpful for professional development, which is very useful for Saudi employees", with a mean of 4.54. This is perhaps unsurprising since the majority of learners were young, and Haywood (2016, p.72) reports that younger learners are the most career-conscious. According to Lim et al. (2017, p.3), most Asian participants use MOOCs to gain specific job skills, prepare for their future work, and as part of their professional certification. In my study, employed learners reported that it was important for them to update and improve their skills and knowledge professionally to keep pace with modern developments and to move to advanced levels in their careers. My participants found that MOOCs cover the deficiency or differences between the skill requirements of their job and what they gained in their academic studies. MOOCs also helped those who were working in fields not related to their academic studies, such as in business and research fields. For example, Halah reported in her interview:

My major in university was history, but I am working now as a social researcher, which is not related to my academic field. Now I am searching for the things that help me in my job... I need to communicate with beneficiaries. I found a MOOC about customer service and it was very useful for me and I wished that this MOOC went further as I found the teacher's illustrations very special and simple...and his comments were very clear.

In addition, Haifa majored in family medicine and worked in a hospital as a doctor for psychiatric patients. She thus joined two MOOCs in the field of psychology. She reported that although the information was simple and introductory these courses were useful for her because the MOOCs were in Arabic, which is the same language that she uses with her patients. She found that MOOCs helped her gain knowledge of terminology that she was familiar with in English from her prior academic experience, which took place entirely in English. Similarly, Saud majored in English and was working in an academic area and therefore he joined MOOCs that helped him academically and educationally. These participants' responses indicate that MOOCs helped these employees in their jobs by providing them with skills or information that might have been missing from their university studies. To some extent, the findings of my study do not differ from those of previous studies (such as, Bayeck, 2016; Chang et al., 2015; Christensen et al., 2013; Macleod et al., 2015; White et al., 2014; and Zhenghao et al., 2015), where it is reported that the main reasons for participants taking MOOCs is advancing in their jobs and developing their careers.

Furthermore, trainer participants in my study used MOOCs as preparation for face-to-face programmes that discuss the same topics as the MOOCs. This goal concurs with the findings of Shrader et al. (2016, p.12), where it is explained that participants are likely to be interested in designing their own courses or want to resource new ideas for their own teaching.

In addition, some interviewees found that MOOCs could provide them with the skills needed for the jobs they aspired to. For example, Sarah had a Bachelor's degree and she was a job seeker who joined MOOCs that aim to improve participants' English language skills. She believed that most employers require employees who have good English skills and felt that her engagement in MOOCs might improve her English. This finding was consistent with Zhong et al. (2016, p.955) in their survey of Chinese MOOC learners; they found that MOOCs allowed 27% of them to acquire new skills and were helpful in job hunting. In this regard, Sallam (2017,

p.570) found that the *Learn English: Conversational Skills for Beginners* course on the Edraak platform had the largest proportion of enrolments. Thus, it seems that these courses that focus on developing the skills needed in most jobs, such as learning English and computer applications, have high demand. This is a factor which requires consideration. In another example from my study, Amani and Amal were university students who aspired to be university faculty members and therefore took MOOCs that supported their CVs and helped them improve their proficiency at teaching students in Higher Education. This finding is consistent with other studies, such as those of Macleod et al. (2015, p.58) and White et al. (2014, p.8), where many participants wished to obtain certification to improve their CVs and thereby their career prospects. Similarly, the findings at Duke University highlight that one of the main reasons for enrolment in MOOCs is the demand for credentials which will enhance participants' CVs (Belanger and Thornton, 2013, p.9).

According to ICEF Monitor (2015), when a Coursera survey explored career benefits, the results showed that learners sought both tangible benefits, for example starting a new business or receiving a raise, as well as intangible outcomes related to career advancement such as enhanced skills for current jobs. Interestingly, the Harvard Business Review provides a report of a survey questionnaire completed by 52,000 learners who had completed a course via MOOCs (Zhenghao et al., 2015, p.4). Thirty-three percent of the participants obtained enhanced employment as a result of learning via a MOOC, while a significant portion of the participants (26%) indicated that they had obtained new employment as a result of their learning (Zhenghao et al., 2015, p.4). According to Zhenghao et al. (2015), in developing countries such as Saudi Arabia, people with lower levels of education and socio-economic status are more likely to report tangible career benefits. These authors also believe that MOOC participants who already hold a high-skilled job are likely to obtain general career benefits, for instance improving their skill at their current jobs, whereas participants who do not have a



high-skilled job are more likely to achieve tangible career benefits such as re-training to transition to a new job. In my study, I found that Amal, Amani, and Sarah were hoping to get tangible benefits by getting new jobs, especially as they were either undergraduates or recent graduates and their job skills needed development. Other participants in my study, such as Haifa and Halah, were hoping to obtain intangible benefits as they wanted to enhance their skills at their current jobs. Thus, my findings demonstrate that both tangible and intangible career benefits were reported by Saudi participants and their aims are attributed to their situation and needs. Indeed, I agree with Sanchez-Gordon et al. (2015, p.1), who argue that using MOOCs for training people in the public sector is not only a valid option but also a necessity for many reasons. These reasons include the huge number of public employees that need to be continuously trained, the limited access for many employees to the training courses due to a lack of resources, and the need to improve the quality and method of training in order to deliver training programmes more quickly and with lower costs (Sanchez-Gordon et al., 2015). In addition to training employees, Sanchez-Gordon et al. (2015, p.5) claim that MOOCs could be used to reduce national unemployment rates through training and skill development.

In a five-point model, the Hubbard (2014) 'Five components for open education' (5COE) has three demands and two supply factors in open education. One component from a demand point of view is the capabilities and employability development (Hubbard, 2014). The idea underlying this component is that education should enable learners to be prepared for employment (Hubbard, 2014). Additionally, it should offer the learner the possibility of learning new skills relevant for the 21<sup>st</sup> century, such as critical thinking, responsibility and creativity (Hubbard, 2014). Another important element of this component is the learner's personal growth (Hubbard, 2014). Many participants in my study explained how MOOCs helped them in their personal growth; this will be discussed in the following section.

### 5.3.2.2 Self-Development

Indeed, many participants in my study found that MOOCs were useful for self-development. This includes developing their confidence in communicating and dealing with others more effectively.

Indeed, the majority of participants strongly agreed with the statement, “Learning through MOOCs has increased my confidence”, where the mean was 4.47. This is in agreement with Zou et al. (2017, p.478), who highlight that the more the learner learns about in a MOOC, the greater his or her confidence. Tunçel (2015, p.2575) defines self-confidence as a cognitive human perception that is required in the educational, personal and social aspects of an individual’s life in order to achieve success and happiness. Norman and Hyland (2003, p.6) assert that if confidence is considered as situationally specific and not a trait, this means that confidence can be decreased or increased depending on the circumstances. Consequently, confidence can be increased by learning and at the same time plays an important role in effectively reaching our goals.

In addition, many of my interviewees and survey responses emphasised that partaking in MOOCs improved their ability in self-learning (with a mean of 4.78). According to Kebe et al. (2018, p.246), self-learning has been found to be a part of self-regulated learning. This form of learning is evident when learners plan their learning goals and develop strategies to obtain these goals (Kebe et al., 2018, p.246); additionally, they monitor and revise those strategies during the course of their learning. When learners master this form of learning they engage more in learning and obtain better outcomes from their learning (Kebe et al., 2018, p.246). My participants believed that teachers in MOOCs download integrated materials, such as videos, PDFs and activities, and then participants should play an important role in putting forth personal effort to learn these materials more effectively based on their personal circumstances. Latifah and Bader argue that after taking MOOCs, participants need to improve themselves

and expand on the information that they have. Thus, they believe that participants will conduct further independent research about the topic by relying on their personal efforts without needing a teacher or guidance.

According to my participants, learning in MOOCs helped them develop personal skills, such as time management and self-discipline, for which the mean was 4.40. For example, in her interview Amani made the following comment:

Learning with MOOCs reinforced discipline and how I determine the appropriate course and the proper way of learning for me... The assessment in MOOCs reinforced self-censorship, with which I found it impossible to go back to the course materials to cheat.

According to Blackmon and Major (2016, p.81), self-discipline is an element of self-regulation skills, for example, organisation, self-teaching methods, and time management have a tangible influence outcomes and educational success. From my participants' responses, it seems that they have developed self-regulation skills (such as self-learning, self-discipline, and time management) while learning on a MOOC course, skills that are critical to MOOCs since all work in a MOOC is self-directed. Many participants in my study said that completing MOOCs developed their ability to organise tasks and duties and led them to achieve their goals more professionally and effectively without any feeling of pressure. These findings about self-discipline in relation to course success are similar to the results acquired by Blackmon and Major (2016, p.81) that self-discipline leads to success in MOOCs. However, this does not mean every learner is successful even though they are self-directed. Robbins et al. (2004, cited in Blackmon and Major, 2016, p.81) found that the time of course enrolment is a factor in success rates. For example, learners who enrolled on a MOOC before it started perform at a higher level compared to those who enrolled after the course start date (p.81).

Other participants in my study revealed that MOOCs helped them gain skills that increased their satisfaction with life. For example, Haifa's engagement in a MOOC assisted her in

addressing and resolving her financial crises by providing information on financial management, which raised her awareness when she encountered financial problems. Haifa said:

I discovered that I had weakness in financial management and it was difficult for me to join a face-to-face course and thus, I searched for online courses and this was the first time I found out about [...the platform name...].

With regards to the benefit that Haifa gained, she commented:

Although the course did not exceed a month, it was very useful...I benefited from the course very, very, very, much. It gave me a great idea about financial management to the extent that my friend commented when we discussed about issues related to financial management by saying: you seemed to me like you are specialised in financial management!

It seems that as well as gaining financial management skills, Haifa also improved her self-management and learned to deal with her financial concerns. Waks (2016, p.108) notes that this is one of the skills being taught by MOOC courses and such an ability is one of the 21<sup>st</sup> century skills highly desired by individuals. My finding was in alignment with the study of White et al. (2014), who found that participants in MOOCs aimed to increase their life prospects generally.

In addition, one of the survey respondents commented that taking part in MOOCs pushed him towards the first stages of awareness and accepting others. According to Siragusa, and Dixon (2008, p.942), researchers have studied attitude formation and provided evidence that there are links between attitudes and beliefs and between attitudes and behaviour. This shows that taking courses which are focused on self-development contributes to the development of these individuals' beliefs, thinking, and lifestyles in ways that change their attitudes and lead them to more readily accept differences between themselves and others. They also acquire social skills such as scientific debate and critical thinking. It seems that MOOCs can play a significant role in facilitating changes for individuals and society.

### 5.3.2.3 Access to Information of Interest

In addition to the benefits of MOOCs for professional development and self-development, many interviewees in my study wished to access information of interest or gain awareness about particular topics. Many studies have provided evidence that MOOCs offer the possibility of exploring subjects of interest and satisfying people's curiosity (Bayeck, 2016; Chang et al., 2015; Christensen et al., 2013; Hew and Cheung, 2014, p.45). In Belanger and Thornton's (2013, p.10) study, about 87% of participants were generally interested in the MOOC topic and 53% wanted to expand their existing knowledge of the topic. In addition, Macleod et al.'s (2015, p.58) study found that 70% of learners took MOOCs in a subject area other than that of their original studies out of a desire to learn new things. This is also true in my study; for example, Sultan majored in Arabic literature but was interested in and joined a MOOC relating to digital media. Another example was Bader who majored in physics but was interested in MOOCs on programming and psychology. Ahmed also selected MOOCs that were related to hobbies that he liked to read about whether they were in English or Arabic. Another participant with a similar view, Amani, said:

Instead of joining another university or another specialisation, especially the specialisations that are impossible for me to study in four years...thus I joined MOOCs in the field of these specialisations for the purpose of knowledge without deepening significantly.

My finding is similar to Klobas' (2014, p.157) work, where participants joined MOOCs in order to explore the course content related to their area of interest. In his study, Haywood (2016, p.72) concludes his analysis of participants' reasons for studying MOOCs by stating that, overall, MOOCs offered an opportunity for the public to experience a form of online learning "without the overheads of enrolling in a college or university, paying fees and making a major commitment". This may be, as argued by Leontyev and Baranov (2013, p.1534), because the nature of MOOCs is non-mandatory and therefore they might attract individuals

who are both curious and self-motivated and who aim to invest their efforts and time in educating themselves and their peers.

Another example in my study is Amal, who made the following comment:

When I want to know about some topics, and if I use Google to reach to the information this will be considered as personal effort and I would not know the overview of this topic or its key ideas.

Amal's quotation shows that she used MOOCs as a starting point to provide the basics about her topics of interest. Amal's opinion was confirmed by the majority of survey respondents who completely agreed with the statement that "MOOCs are a good starting point to learn some new subjects", for which the mean was 4.70. Such responses suggest that MOOCs could be used instead of websites such as Wikipedia, which provide general information about multifarious topics. In the literature, there are parallel debates between MOOCs and successful business models like Google and eBay, which provide a free service by using technologies (White et al., 2014, p.5). Thus, MOOCs seem capable of providing feasible, free and easy services that are highly trusted by the users, similar to Google and eBay, by providing the opportunity for the users to explore integrated contents in their area of interest.

#### **5.3.2.4 Development in Academic Specialisation**

A small number of my participants had taken MOOCs in the field of their academic specialisation as supplementary courses. For example, Nourah and Amani were university students and they joined MOOCs with the same topic as their university subjects. They took these MOOCs before studying the same topics traditionally in their universities because in this way they found that these courses supported their knowledge and expanded their horizons, which facilitated their understanding of their future university subjects. Nourah and Amani's opinions were in complete agreement with the majority of survey responses to the statement

“Using MOOCs in Saudi universities can help students improve their level of education”, for which the mean was 4.63. The participants’ responses indicated that using MOOCs that were similar to university subjects could help these students develop educational information and experiences, promote their learning, and improving their academic level. My findings are similar to those of other previous research. For example, in Belanger and Thornton’s (2013, p.9–10) study, more than 70% of participants took MOOCs related to their academic field of study and 26% used MOOCs as a supplement to their college or university class. In addition, 47% of MOOC participants in Zhenghao et al.’s (2015) study were students in traditional academic institutions and 94% reported some educational benefits. The most common educational benefits that participants reported were gaining essential knowledge in their field of study and deciding on a particular field of study (Zhenghao et al., 2015).

Other university students in my study took MOOCs that helped them in their research; for instance, Reem and Danah joined MOOCs that provided them with a significant amount of information and references that were useful for their research. Reem stated in her interview:

I was watching the explanations in MOOC, which are better than what I have obtained in classrooms...I have come back to the course anytime I needed to, it collected many references, and I benefit now from them in constructing my methods in my Master’s thesis.

In fact, Reem’s experience is not surprising since Uden et al. (2014, p.50) demonstrate that material presented in MOOCs frequently derives from traditional university courses and it is usually taught by the particular university teaching the MOOC. In the study conducted by Zhong et al. (2016, p.955), approximately 27% of participants preferred to learn through a MOOC rather than traditional classroom teaching. In that study, 61% credited the repeatability of MOOCs as being helpful in understanding the content in greater depth, 19% credited the effectiveness of various visual materials, and 28% highlighted the contribution of participant discussions (Zhong et al., 2016, p.955). For Reem and Danah, the academic benefits of MOOCs

were compatible with the opinions of many survey respondents who agreed with the statement “MOOCs provide information and references which are useful for academic researchers”, for which the mean was 4.20. My finding is similar to White et al.’s (2014, p.9) study, where 60.6% of participants declared that they would use the information gained from MOOCs in their projects and research. This result is consistent with Uden et al.’s (2014, p.50) argument regarding about the level of the material presented in a traditional university-taught MOOC since university level material would be useful for those attending a traditional university and carrying out academic research.

Other university students such as Alya used MOOCs in order to help them in their field training, which usually occurs in the last semester of university study. They found these MOOCs useful for helping them in terms of understanding how to apply the theoretical information obtained in their university courses. Alya's opinion is consistent with the findings of Belanger and Thornton (2013, p.12), where students at Duke University who had earned a certificate in the MOOC were asked about the learning outcomes they had gained and a significant number selected the option “learning to apply knowledge, concepts, principles, or theories to a specific situation or problem”. This could be a result of the experiences that the participants shared through the MOOC’s discussions, as noted by participants in Zhong et al.’s (2016) study, as well as through the provision of valuable information that is more likely to affect participants’ real lives and be helpful for field training. Teachers in MOOCs are likely to have more opportunities to provide examples and broad information through electronic resources, which could be hard to provide in university courses due to the limited time that teachers have in each university lecture.

In conclusion, some of my participants found that Arabic platforms were lacking in MOOCs for some specialisations, which limited their use of MOOCs that were related to their academic fields. Currently, Saudi universities are yet to establish partnerships with the platforms and the



faculties have voluntarily introduced MOOCs as individual contributions. This is also confirmed in a review of Sallam (2017) about the MOOCs in Saudi Arabia and the Arab world generally. He (2017, p.564) found that the Arabic platforms had not yet been proposed inside Arab universities. In addition, Sallam (2017, p.564) found that the Arab universities' participation is still very weak within the movement of MOOCs. For example, "although it has been more than two years since the establishment of Rwaq platform, the Arab universities are still absent from the scene" (Sallam, 2017, p.569).

By the time of the project, I had hoped that the Saudi platforms would have benefited from the experience of foreign platforms like Coursera and FutureLearn. Saudi platforms could have been in contact with Saudi Higher Education in order to draw a clear policy that would have enabled Saudi universities to provide courses in different fields. However, I now anticipate that offering universities courses in the Saudi platform might increase the number of students who have the desire to learn different disciplines and this could lead to multidisciplinary students with better professional abilities.

### **5.3.3 Completion Rates**

According to Onah et al. (2014a, p.1) and Klobas (2014, p.157), although MOOCs have received wide attention from many institutions, their success and effectiveness continue to be debated in terms of the number of participants who benefit from these courses. Some researchers quantify the success or quality of a MOOC by measuring learners' success (Hew and Cheung, 2014, p.51). Klobas (2014, p.157) argues that "detractors claiming that the low proportion of registrants who complete MOOCs is an indicator of low quality and poor pedagogy". Therefore, there has been extensive research on the completion rates of MOOCs (e.g., Dillahunt et al., 2014; Henderikx et al., 2017; Ho et al., 2014; Hone and El Said, 2016;

Jordan, 2014; Kizilcec et al., 2013; Koller et al., 2013; Lakshminarayanan, 2012; Onah et al., 2014a; Reich and Ho, 2014). Generally speaking, most of the literature considers the completion rate of MOOCs as the percentage of learners who passed the course and earned a certificate (Parr, 2013). Thus, I have used the terms ‘success rate’ and ‘completion rate’ interchangeably. For this purpose, I was able to collect statistical information about three MOOCs that had large numbers of participants and this data is presented in Table 5.12.

Table 5.12: Participants’ Success Rate in the Three MOOCs

<b>MOOCs</b>	<b>Number of participants</b>	<b>Number of successes</b>	<b>Success rate</b>
Course A	10240	584	5.7%
Course B	10446	1258	12.0%
Course C	6190	869	14.0%

Although all the MOOCs were on the same platform and all were produced by Arabic professors from Saudi universities, the success rates of these MOOCs were significantly different from each other and as a result I reassessed some of the data relating about these courses. I participated and completed course A and I gained a certificate after passing the final exam. I observed that although many participants in course A found the content useful, the design of the presentations was considered modest for an online course. In addition, the teacher did not show her face, which prevented the learners from reading any meanings in her facial expressions and body language, and at the same time, the images used to illustrate the spoken words to help the learners focus were inadequate. The research of Peltier et al. (2003) confirms the relevance of the course structure and information delivery technology to the participants’ perceptions of the effectiveness of online courses, which in turn affects their retention in the course. However, I found that the success rate of course A was similar to the completion rates in other courses described in much of the literature (for example, ICEF Monitor, 2015; Koller

et al., 2013; Lakshminarayanan, 2012; and Reich and Ho, 2014). This might be because participants were more interested in the content of this MOOC and they might have known from the promotion video what the course would look like in terms of the design and the teacher's (lack of) appearance. Thus, 5.7% of participants may not have identified any challenges that prevented them from completing the MOOC.

On the other hand, the completion rate of course C is deemed to be barely higher than the completion rates of most MOOCs in the literature, where Onah et al. (2014a) often found it to be below 13%. Alya stated in her interview that she was Master's degree student and that the teacher of course C was a professor who taught her the same course in her university, and he had guided all his students to the platform and advised them to join the MOOC that he produced since it contained more information than the university course. I found that course C was not only attractive to university students, but also to all individuals who were interested in the field as it was produced as a training programme and contained up-to-date information from the field. Consequently, Sultan considered reproducing the same course as a face-to-face training programme for free to anyone who might need it but who could not attend it online, especially since his academic specialisation was in the same field as course C. The usefulness of this MOOC, aside from the advertisement by the teacher, could be the main reason why the success rate was 14.0%, which was the highest of the three MOOCs. Hone and El Said (2016, p.157) conducted a post-MOOC survey about learners' perceptions and found that the effectiveness and relevance of MOOC content is a significant factor that affects the level of retention. Similarly, Peltier et al.'s (2007) study suggests that the content of the course is the most important factor in participants' perceptions of the quality of online learning. In addition to the effect of MOOC content on retention levels, Hone and El Said's (2016, p.157) results also indicate that the interaction with the MOOC teacher is a significant factor in MOOC retention: when interaction with the teacher is higher, retention is also higher. Thus, it is possible that the

teacher for course C had greater interaction with the participants, especially as he personally marketed the course and invited his university students, who already could communicate with him.

The success rate of course B was 12.0%, which fell between the success rates of courses A and C. Indeed, I found many interviewees used course B in the academic field in which they were students and some of them utilised the information to help them clinically as the course was linked to both educational and clinical domains. I found that although the teacher was a very well-known expert in the field, the course length was 20 weeks, which was considered too long for informal online learning. In this regard, Jordan (2014) and Onah et al. (2014a, p.3) found that the completion rates of MOOCs negatively correlated with their length, i.e. shorter MOOCs have higher completion rates. Zhan et al., (2015, p.2274–2275) found that the average MOOC engagement of their participants over time was 7.6 weeks, much shorter than a typical face-to-face university course. Thus, I believe that although the content was useful for many people and the teacher illustrated the content in attractive ways by providing examples from real life, it could be hard for anyone to continue learning the same topic for more than a month. This might be the main reason for the high dropout rate, especially considering the high number of participants who joined the course. Sanchez-Gordon et al. (2015, p.4) argue that working people find it difficult to follow an eight to 12-week course and assert that reducing the MOOCs' length to two to six weeks and ensuring the weekly time commitment lies in the range of two to six hours will increase completion rates. In addition to the influence of course length on retentions, Onah et al. (2014a, p.3) found that small MOOC enrolments (up to 200 participants) are more likely to have a completion rate of more than 20% higher than larger courses; furthermore, MOOCs that rely on peer-assessment have often had particularly low completion rates.

Currently, the studies show that majority of MOOC learners do not complete their courses and these statistics are consistent across the different platforms (ICEF Monitor, 2015). For example, Jordan (2014, p.150) found the completion rate in the majority of MOOCs to be less than 10%, with a median average of 6.5%. The completion rate of a Coursera course in September 2014 was only about 4% (ICEF Monitor, 2015).

However, Sandeen (2013, p.7) argues that that a 10% completion rate in a course with 100,000 learners is still a significant number. The author also argues that learners vary in their motivations when they enrol in MOOCs and perhaps the course completion rates do not tell the whole story. Indeed, Klobas (2014, p.157) asserts that the percentages of completion and certification are difficult to interpret because they might be unreliable. This is because the low completion rate of MOOCs could be interpreted in many ways. For example, in my study some learners left a course when they faced challenges that affected their learning and this led them to drop out, such as when the content was too difficult or not meeting their expectations, the postponement of lectures, the course design being too modest and not sophisticated enough to attract their attention, the duration of the course being too long and not commensurate with being an informal course, or when they became too busy with work, which had priority over learning a course that did not offer credit.

My participants' reasons for dropping out from MOOCs were similar to the reasons arising from the literature review. Onah et al. (2014a, p.4) summarise some of these reasons from the literature, including: lack of time due to personal circumstances; course difficulty and lack of teacher interaction and support; bad experiences (such as the inappropriate behaviour of some participants in forums; incorrect or poor-quality materials; unrealistic expectations of the course contents or requirements; and the difficulty for those starting the course late to catch up, especially after community discussion is well established in the course or, as Ho et al. (2014, p.7) explained, when certification becomes difficult or impossible. Veletsianos et al. (2015,

p.572) also argue that online learners continue to struggle with the self-discipline and time management needed to be successful.

Therefore, Sanchez-Gordon et al. (2015, p.4) suggest that designing a clear syllabus and creating a social learning community may maximise completion rates. Similarly, the results of Goh et al.'s (2017) study highlight the importance of clarifying the objectives and benefits of a MOOC before it starts. Furthermore, their results indicate that providing training and support, as well as consistent feedback and interaction among teachers, are crucial to increasing learners' engagement in MOOCs (Goh et al., 2017). The study of Chang et al. (2015, p.538) also found that 15.8% of MOOC participants reported the importance of balancing the workload between their personal work and MOOC learning in completing these courses.

In addition to the previous factors that lead participants to drop out from MOOCs, Latifah and many of the survey responses in my research agreed that "Producing MOOCs in English represent an obstacle for some Saudi learners", for which the mean was 4.10. Participating in MOOCs produced by universities in developed countries such as Canada and the United States can result in individuals from developing countries encountering challenges (Firmansyah and Timmis, 2016, p.3). One example is difficulty understanding the language for people with limited or no fluency in English. Furthermore, Onah et al. (2014a, p.4) found that a lack of learning skills or digital skills required for MOOCs (such as a high degree of autonomy and feeling comfortable and familiar with the MOOC system) caused participants to drop out of MOOC in some studies. Moreover, Leontyev and Baranov (2013, p.1534) clarify that technical difficulties are also one of the main reasons for learners to leave MOOCs. However, the mean survey response for the statement "MOOC platforms provide suitable technical support" was 3.88, which means that the majority of participants agreed that the platform helped them technically when they faced difficulties in dealing with the materials or needed IT support, and this was not among the reasons causing my participants to drop out of the MOOCs.

In addition, some learners who appeared to drop out of the course in fact selected only certain parts of the content they needed to learn. This reflects the results of Onah et al.'s (2014a, p.1) study, where it is indicated that many learners who are classified as dropouts because they do not complete all the components to gain a certificate are “still participating in the course in their own preferred way (either at a slower pace or with selective engagement)”. The most common pedagogical means used by participants in my study were to watch videos and to read the written materials, while less than half of the participants (about 43.1%) completed the assessments. These results are in the line with Shrader et al.'s (2016, p.6) work as these authors found a significant percentage of participants only watched video lectures in multiple MOOC offerings at the University of Illinois at Urbana-Champaign, whereas just a fraction of participants submitted the quizzes within all courses. This is because for most participants in my study earning a certificate was not an important reason for taking MOOCs. Instead, they generally looked to extend their knowledge in their own topics of interest by using different academic options. Furthermore, they may have been simply curious about how the courses of a particular university were taught, and were not therefore interested in learning the content per se. These findings reflect the results of Shrader et al. (2016, p.12) and Zheng et al. (2015, p.13) that many participants in MOOCs never intend to complete them even when they are organised and marketed as traditional courses. Shrader et al. (2016, p.8) justified participants' behaviours in selecting some of the tools by claiming that some participants do not use MOOCs as “an all-encompassing, educative experience”; rather, they rely on discrete avenues for learning due to the freedom MOOCs offer in terms of choosing how and when they want to take a course. This means that participants have the chance to experience the whole course or just part of it as long as the course is open, and they can take advantage to either concentrate hard or engage in a MOOC as a kind of entertainment or leisure activity while they are busy driving or at home with no pressure to achieve a particular level. MOOCs' openness allows

participants to choose how to engage with MOOC activities in whichever way they see fit (Shrader et al., 2016, p.6). Therefore, participants can choose traditional or non-traditional paths for course participation depending on their own goals (Shrader et al., 2016, p.6). Haywood (2016, p.70) argues that formal Higher Education norms such as being ‘obliged’ to complete the course, to participate in all activities, or to complete the exams do not apply to MOOC learners. Ho et al. (2014, p.2) explain this point by stating that open online courses do not generally entail monetary costs and accountability. Thus, it is difficult to assess whether a learner drops out of a course completely because they may complete the course later. This is because MOOCs are generally open all the time, allowing everyone to come and as they please without any financial or educational penalties. Ultimately, it is important to remember that MOOCs are informal courses that individuals choose to partake in in order to enrich their lives; therefore, the tools that individuals use and the time that they remain active and learn in a course may depend on how much time they have to do this kind of learning and how much they need from the course (Frick, 2016). The selected activities and the time allocated by individuals to informal online learning vary and can be highly dependent on each individual’s interests and obligations.

In contrast, Leontyev and Baranov (2013, p.1534) noticed that learners who remained active in their MOOCs and completed the whole course were those who were seeking self-improvement to prepare themselves for school or to study for standardised tests. In addition, many learners who completed a whole MOOC course most likely enrolled to enhance their CVs (Kizilcec et al. 2013, p.5); therefore, they may be willing to obtain certificates that prove their successful participation in these courses. However, when Haywood (2016, p.72) examined the achievements of learners who stated from the beginning that they intended to earn certificates, the youngest were much less likely to reach their goals and be successful than older participants (Figure 5.3). In this regard, the study of Greene et al. (2015) demonstrates



that older and more educated learners with prior experience with MOOCs are less likely to drop out because of their self-rated commitment to completing the course. Thus, it might be that older participants are more cautious when they answer exam questions or have more experiences that increase their success rates in MOOCs.

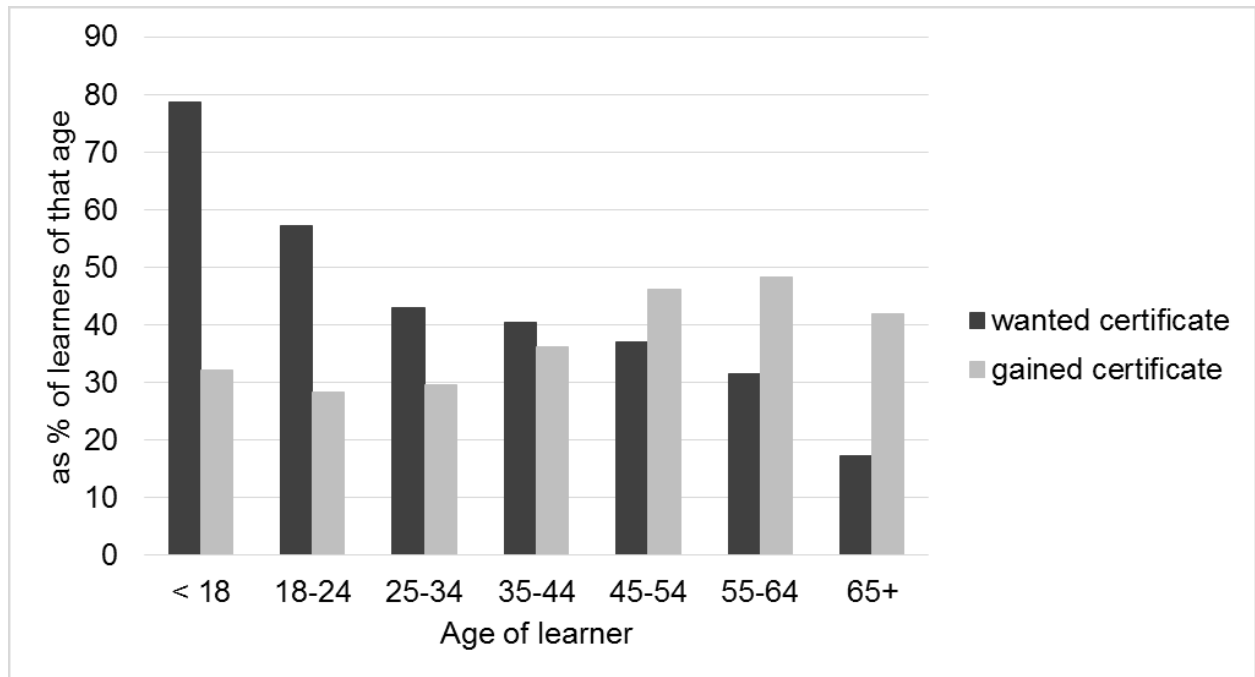


Figure 5.3: Intentions and outcomes (achievements) of learners in University of Edinburgh MOOCs by age group. Certificates are a paid-for option for completing the entire course (Haywood, 2016, p.73)

Interestingly, Dillahunt et al. (2014, p.177) found that, although participants who were unable to pursue formal learning had significantly lower completion rates than other participants, they statistically had higher completion rates in courses offering certificates of distinction. Thus, thinking about the credentials of MOOCs is crucial for increasing the desire of learners to continue and succeed. Another suggestion comes from Lakshminarayanan (2012, p.225), who claimed that if MOOCs charged a fee, then the number of learners who enrolled in these courses might go down, but the completion rates would be likely to increase. However, this seems to contradict the concept of free and open education on which MOOCs are based. Pressure to increase success rates may decrease the effectiveness of MOOCs by encouraging teachers and

administrators to restrict or suppress registration or lower standards for certification (Ho et al., 2014, p.2).

In conclusion, the discussion in this section has demonstrated that some factors could increase the dropout rates, such as the lack of attractive design and irrelevance of content, and these factors should be taken into account when designing and implementing MOOCs in order to reduce the potential for higher dropout levels. Many researchers, however, have admitted to the exceptional learning circumstances of MOOCs (such as Henderikx et al., 2017; Jordan, 2014; Koller et al., 2013; and Reich and Ho, 2014). Shrader et al., (2016, p.2) found that much research criticises the insufficiency of traditional metrics of MOOC data, particularly using total enrolment in determining completion rates. Focusing only on completion rates “paints a narrow and somewhat distorted view of what is really happening in MOOCs” (Shrader et al., 2016, p.10). In addition, it penalises desirable activities, such as browsing and exploring courses, which MOOCs are generally designed to support (Ho et al., 2014, p.2). Therefore, Veletsianos et al. (2015, p.584) emphasise that researchers need to examine learners' experiences in greater depth in order to gain a more comprehensive understanding of participation and learning in MOOCs. Ho et al. (2014, p.3) support this notion by confirming the importance of establishing new metrics that go far beyond grades and course certification. These metrics should include the course materials accessed, forum usage, total numbers of “clicks”, and number of active days spent on the course (Ho et al., 2014, p.3). In addition to these metrics, Klobas (2014, p.157) adds the use of individual elements such as the number of times each learning material has been downloaded. Henderikx et al. (2017) present an alternative typology for determining success and dropout in MOOCs by considering participants' intentions and their subsequent behaviour (participants' aims and behaviour are considered in Chapter Three, Section 3.5.1). In this way, Henderikx et al. (2017) found that success rates increased from 6.5 and 5.6% in the traditional approach to 59 and 70%,

respectively. Thus, it is suggested that more research needs to be conducted to better understand participants' levels of satisfaction regarding their learning experiences via MOOCs and to determine the implications of their learning for their lives, instead of merely focusing on their success rates in each course.

## 5.4 Saudi Participants' Perceptions of MOOC Pedagogy and Learning Design

According to Watkins and Mortimore (1999, p.3), pedagogy is “any conscious activity by one person designed to enhance learning in another”. Westbrook et al. (2013, p.7) argue that pedagogy “involves activities that evoke changes in the learner”. Nevertheless, learning design focuses on the importance of designing learning activities and refers to “a range of activities associated with better describing, understanding, supporting and guiding pedagogic design practices and processes” (Cross and Conole, 2009, p.1). Using the strategies of learning design can help teachers respond to new perspectives from new uses of technology that support teaching and learning (Cross and Conole, 2009, p.1). Thus, pedagogy and learning design consider the design and organisation of learning activities that teachers employ in courses and how teaching and learning processes work to reach learning goals.

The survey participants responded to statements designed to discover their perceptions of MOOC pedagogy and learning design. From these statements, my intention was to understand how convenient (or not) participants found learning via MOOCs. In addition, participants could express their opinions about the suitability of teaching and learning activities for acquiring information as well as how well they help maintain enthusiasm and concentration in the participant. Table 5.13 records the participants' ratings from Part 2 of the survey, which was designed to assess the effectiveness of teaching and learning design in MOOCs.

Table 5.13: Part 2: The Effectiveness of Teaching and Learning Design in MOOCs

No	Statements	Likert Scale					Mean	Std. Deviation	Rank	
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree				
1	The design of MOOCs is suitable for my learning style.	Freq.	165	111	13	1	0	4.52	0.601	3
		%	56.9	38.3	4.5	0.3	0			
2	The design of MOOCs eases learning for several types of participants.	Freq.	171	96	20	3	0	4.50	0.672	4
		%	59	33.1	6.9	1	0			

No	Statements	Likert Scale					Mean	Std. Deviation	Rank	
		Strongly agree	Agree	Neutral	Disagree	Strongly disagree				
3	I feel I have more freedom by learning via MOOCs because I can learn anytime, and from anywhere.	Freq.	241	46	3	0	0	4.82	0.410	1
		%	83.1	15.9	1	0	0			
4	With MOOCs, I can learn at my own pace.	Freq.	198	86	5	1	0	4.66	0.530	2
		%	68.3	29.7	1.7	0.3	0			
5	Some MOOC activities rely on social constructivism.	Freq.	133	96	57	4	0	4.23	0.811	6
		%	45.9	33.1	19.7	1.4	0			
6	Learning activities in MOOCs met my needs.	Freq.	113	117	49	10	1	4.14	0.843	8
		%	39	40.3	16.9	3.4	0.3			
		%	33.8	39.7	23.8	1.7	1			
7	I prefer to communicate with the teacher via online tools (e.g., email, forums) rather than face-to-face.	Freq.	88	68	81	37	16	3.60	1.19	14
		%	30.3	23.4	27.9	12.8	5.5			
8	The teacher of the MOOCs provides support.	Freq.	97	121	66	4	2	4.06	0.824	10
		%	33.4	41.7	22.8	1.4	0.7			
9	The teacher's support helped increase my persistence with my learning.	Freq.	136	107	42	3	2	4.28	0.800	5
		%	46.9	36.9	14.5	1	0.7			
10	The length of the videos helped me maintain my concentration.	Freq.	87	93	67	34	9	3.74	1.10	12
		%	30	32.1	23.1	11.7	3.1			
11	E-assessment is more preferable to me than conventional assessment.	Freq.	126	91	56	13	4	4.11	0.960	9
		%	43.4	31.4	19.3	4.5	1.4			
12	I like peer-assessment.	Freq.	73	85	109	13	10	3.68	1.01	13
		%	25.2	29.3	37.6	4.5	3.4			
13	MOOC assessments provide immediate feedback.	Freq.	99	109	73	8	1	4.02	0.858	11
		%	34.1	37.6	25.2	2.8	0.3			
14	It is difficult to get effective feedback in MOOCs that will help me improve my learning.	Freq.	36	56	125	60	13	3.14	1.02	15
		%	12.4	19.3	43.1	20.7	4.5			
15	The Saudi MOOC platforms (such as Rwaq and Dorooob) met my expectations.	Freq.	115	127	4	7	0	4.21	0.771	7
		%	39.7	43.8	14.1	2.4	0			
General Mean = 4.11										

The results of the 15 statements are ordered in the ranking column from the highest mean to the lowest. In the above table, the general mean of all statements was 4.11, which shows the

respondents' answers were generally *agree*. The mean scores of most statements were between *strongly agree* and *agree*; the statement "It is difficult to get effective feedback in MOOCs that will help me improve my learning" was the only statement that had a mean score of 3.14, which represents a neutral response. This might be because of difficulties receiving personal feedback due to the large number of participants. Further discussion will involve the following themes.

Grover et al. (2013, p.2) argue that "design choices reflect the assumptions of designers about the ways in which people learn, and should be pushed to reflect the state of the art of knowledge in the learning sciences". Generally, according to the interview and survey responses, learning via MOOCs is preferable because participants considered them to be more flexible than conventional courses and they could easily access them online for free. Flexibility in accessing learning comes in different forms, including learning from any place, at any time, and at the learner's own pace (Frick, 2016). One participant, Fahad, stated that because learners in MOOCs can attend the courses at their convenience, their concentration and motivation may be better. In the literature, Yuan and Powell (2013) claim that both motivation and concentration are driven by the flexibility of MOOCs. Chang et al. (2015, p.539) assert that MOOCs can achieve the goal of self-paced learning, which enhances overall learning motivation because learners can spend more time on materials they do not completely understand. Through MOOCs, participants are able to spend the amount of time they want (DeBoer et al., 2013, p.18) without restrictions.

Moreover, "MOOCs provide options for learners with various needs and interests, and students can participate using a computer, smart phone or tablet with an Internet connection to interact with instructors and classmates worldwide, instead of sitting in a classroom" (Chang et al., 2015, p.539). In addition, both Frick (2016) and Schneider and Kizilcec (2014) argue that MOOCs facilitate personalisation of the online learning experience. For example, each learner could create his or her own pathway for learning by selecting the materials and activities that

he or she needs based on his or her own goals and make progress in the course at his or her own pace. This could be why the majority of survey respondents strongly agreed with the statement “The design of MOOCs is suitable for my learning style” with a mean of 4.52. We will return to some of these factors throughout the discussion of the findings.

The main activities that participants could perform in the MOOCs were watching videos; reading the written documents, which usually included the same text found in the videos; and completing the tasks and exams. In addition, learners had the option of participating in the discussions in the forums or walls and posting comments under the videos and other files. Similar activities are often available in other platforms. For example, Jablow et al. (2014, p.4) delivered a course on the Coursera platform in which the students mainly learned by watching videos for the eight-week course, reading written materials, completing exercises, engaging in projects, and completing assignments to deadlines after two weeks.

In general, most survey respondents and the interviewees judged the learning activities to be adequate and meet their needs. Khaled believed that providing a sequence of information in a simple way is adequate enough to achieve the aims of MOOC, which in his view was to acquire the general keys for the topic, and when the learners wanted to expand their information they could search for books or other references.

In addition, the majority of interviewees saw that MOOCs were short and concise courses when compared with university courses. Some interviewees took MOOCs that were related to their academic fields, and they saw that MOOCs were more focused and concise had more enrichment information than university courses. This might have been due to, as Vygotsky demonstrates through his ZPD model (Wellington, 2015, p.38), the fact that enrichment comes through discussion between people of different levels. If MOOCs are seen as more interactive than traditional university courses, this can be an advantage to the learner on a social basis, which could lead to more success.

However, one of the participants commented in the survey that most current MOOCs were introductory-level courses, and although they were useful, suggested we need more advanced MOOCs with greater detail. Sanchez-Gordon et al. (2015, p.1) share this view; they found that the original MOOCs provided introductory university-level courses, but they also notice that MOOCs are currently expanding in scope. In the case of specialised MOOCs, Reem suggested providing some connected MOOCs which require knowledge from previous MOOCs in order to facilitate follow-up learning and understanding. Similarly, Fahad suggested providing a series of MOOCs at different levels connected together in particular academic fields, giving learners something similar to a mini diploma after they have completed a series. Saud suggested that some MOOCs that were specialised could ask participants to complete a short pre-test before joining in order to help them determine whether the MOOC is suitable for their needs. These suggestions indicate that it would be useful to have MOOCs that contain general information about the field that could be understood by all people in order to learn general information or raise their awareness regarding certain topics, as well as other MOOCs that might help students to acquire more expert knowledge within their academic fields.

Stacey (2014, p.113) argues that earlier MOOCs simply migrated campus-based didactic teaching methods to online platforms without utilising any of the effective online teaching methods developed through research; this may be the reason for the high dropout rates in MOOCs. Stacey (2014, p.112) suggests that making MOOCs more central to learning requires pedagogical innovation for successful teaching of a massive and diverse population of learners online, rather than simply having mass enrolments for free. Mackness et al. (2013, p.140) point out that, despite the increased number of MOOCs, the evidence about MOOC pedagogy remains limited. The lack of an identifiable pedagogy for MOOCs may be a result of the error that Haywood (2016, p.75) highlighted: a tendency of viewing all MOOCs as identical or viewing all platforms as the same.



The effectiveness of teaching and learning design in MOOCs has been classified into subthemes, as shown in Table 5.14, along with the source of data collection method used. These subthemes emerged from the literature review and the data gathered from participants.

Table 5.14: Themes Developed in relation to Participants’ Perceptions of MOOC Pedagogy and Learning Design

Theme	Sources		
	Survey	Observation	Interviews
5.4.1 Teacher Presence to Enhance Engagement	√ (7-8-9-14)	√	√
5.4.2 Attractive Videos to Draw Participants’ Attention		√	√
5.4.3 Multiple Short Videos to Increase Participants’ Focus	√ (10)	√	√
5.4.4 Supplementary Resources to Satisfy Participants’ Needs and Levels	√ (2-15)	√	√
5.4.5 Tasks to Enhance Social Learning	√ (5)	√	√
5.4.6 Assessment to Enhance Learning	√ (11-12-13)	√	√
5.4.7 Pedagogic Orientation		√	√
<i>Note: the results of survey statements 1, 3, 4, and 6 are included within the general discussion of the main theme: MOOC pedagogy and learning design.</i>			

In the following sections, I explain in detail the subthemes of the participants’ perceptions about pedagogy and learning design.

#### **5.4.1 Teacher Presence to Enhance Engagement**

The presence of teachers and their roles in the courses can significantly impact on learning pedagogy. According to Koseoglu and Koutropoulos (2016, p.2), teacher presence includes everything that teachers do to support and guide learners actively, for example, giving directions, facilitating and organising discussions, and providing feedback. In my experience of participating in a MOOC on the conducted platform, course participants could send direct messages to the teacher, with attachments if necessary, and the teacher also provided her email address and Twitter account on the course page. Koutropoulos et al. (2012, p.9) claim that teachers can interact in a number of ways to establish a closer relationship with MOOC learners such as through social messages in the discussion transcripts, for instance jokes, compliments, and greetings. They can also do this through displaying their professional expertise, experience, confidence and self-assuredness. This was confirmed by Reem in her interview by saying:

The teacher made a slide explaining how to communicate with him, and he replies everywhere, whether in Google Plus, emails, or the comments under the videos ... The feedback and the communication were excellent.

Moreover, I saw from my experience with the MOOCs on the conducted platform that the teacher revealed her understanding of what good interaction was, and she thus tried to be responsive to the comments made by participants. My participants also revealed that teachers in MOOCs mostly were present (online) and they provided some form of support as a part of or alongside the course, which enriched their knowledge. This support included, for example, answering learners' questions, discussing learners' ideas, sometimes evaluating or correcting mistakes, responding to participants' requests when they asked for some real-life examples to clarify points, referencing, and providing contents in the form of PDFs. In addition, I noticed that one of the participants was from Morocco and said that he had challenges in understanding the Saudi accent. In response, the teacher stated that she tried to use classical Arabic, but

sometimes she forgot when she engaged in illustration. It could be said from these participants' perceptions that teachers in MOOCs understood the importance of communication and interaction with the participants.

The data from the survey respondents and interviewees suggested that when the teacher was responsive to participants' requests, the learners became more comfortable in learning and their persistence increased. This finding highlights that interaction with the participants and considering their questions and needs can help them in completing the course and maintaining engagement throughout. My findings are in alignment with those of Pacansky-Brock et al. (2015), who confirm that the presence of teachers increases learner engagement in online courses. In addition, Mbatia (2012, p.115) found that the role of the teacher in making the platform comfortable is crucial in the establishment of a social presence. This means that the teacher's presence helps in making participants active and increasing their motivation for discussion (Mbatia, 2012). Kilgore and Lowenthal (2015, p.2) argue that "one thing that often separates a good online course though from a bad one is an active, caring, present instructor who has not forgotten the importance of the human touch". Moreover, Goh et al. (2017) conducted a case study to understand the importance of teacher presence in the MOOC from learners' perceptions; their results indicate that the teacher's presence as well as consistent feedback and interaction are crucial to sustaining the engagement of learners in MOOCs (Goh et al., 2017).

Social presence is a measure of the feeling of community that a learner experiences in an online experience, such as a MOOC. Tu and McIsaac (2002) claim that the degree of social presence is based on the characteristics of the medium, for example, the MOOC, and the user's perception. It is often divided into two factors: intimacy and immediacy. Short et al. (1976) regard social presence as fundamental to person-to-person communication, including both between students and between a student and a teacher. Due to the lack of traditional

communication cues, examining ways to enhance the two components of social presence (intimacy and immediacy) is a crucial step towards improving MOOCs. As immediacy relies on both the physical and psychological distance between the learner and the teacher (Short et al., 1976), MOOCs are often viewed negatively in this respect. Similarly, as intimacy depends on factors such as level of eye contact (Short et al., 1976), MOOCs also have a disadvantage in comparison to face-to-face learning. In the study of Chang et al. (2015, p.538), 17.4% of people felt that the lack of real-time discussions was the reason for their underuse of MOOCs. According to De Wever et al. (2010), social presence might generally be categorised as affective responses, interactive responses, and cohesive responses, and teacher presence can fit into each of these three categories. Kilgore and Lowenthal (2015, p.10) believe that social presence can be established in MOOCs by designing intentional learning experiences that facilitate the establishing and maintaining of social presence using a variety of technologies while considering communication with and the engagement of learners. In this regard, Kilgore and Lowenthal (2015, p.10-11) suggest the following: make learners interested in the course content by creating a course trailer; enable learners to introduce themselves to their peers using voice or video; offer opportunities for social interaction and community building inside and outside the course (for example by using Twitter and LinkedIn); allow learners to critically analyse content and share it with the community of learners; continue the conversation with learners beyond the last day of the course; and provide learners voice or video feedback about their assignments.

However, teachers in the platform of this study vary in the amount of interaction they provide. This may depend on their abilities and time, and it is also a factor that is different in each platform. For example, in a comparison of four platforms (edX, Coursera, OpenLearning and FutureLearn), OpenLearning has been shown to be the most 'instructor-active' (Wong, 2015, p.58). In this study, some interviewees believed that the teacher's interactivity depended on

their personality. Fahad argued that some teachers like technology and that he could tell because they always seemed to have their smartphones with them. He deduced this because whenever they received his comments or questions, they immediately responded and would join in the discussion on a regular basis. This suggests that these informants believed some teachers in MOOCs interacted effectively with the participants, while others did not. In many cases, interviewees expressed that they did not blame the teachers for not responding right away, especially when they had voluntarily produced the MOOC and were busy with other commitments and responsibilities. This may be why one survey participant commented that he preferred when the number of teachers in a MOOC was more than one. It can be deduced from participants' responses that having more than one teacher in each MOOC could increase the opportunity to interact with the considerable number of participants.

On the other hand, some participants in this study explained that they had experienced difficulties in receiving effective feedback from the teacher. My participants' perceptions align with the findings of Veletsianos et al. (2015, p.573) and Zhong et al. (2016, p.958), who found that learner–teacher interactions were fairly minimal, leading some participants to perceive a lack of support and supervision. According to Koseoglu and Koutropoulos (2016, p.3), teacher presence in MOOCs is a central challenge due to the unique format of the MOOC environment. Dolan (2014) argues that one of the critical issues of MOOCs is that learners will receive no customised feedback from teachers or experts and as a consequence interactions lack meaning. Due to the large number of learners in MOOCs, teachers can find it difficult to respond to each learner individually. Thus, some participants found that communication with teachers online is harder compared to face-to-face courses because the learner is not in the same immediate environment as the teacher and may not always receive an immediate response. Ahmed added that most of the teacher feedback was very short and concise and their responses lacked detail. My participants responses are in alignment with Margaryan et al. (2015, p.81), who analysed

discussions in MOOCs and discovered that they were general and non-specific and did not include expert feedback on participants' performance of specific tasks and learning activities.

Although interacting with participants has challenges, some teachers have developed ways to make the answers to the most frequent questions clear to all participants. For example, I noticed that the teacher of the MOOC I completed on the conducted platform posted the answers for the most frequently asked questions in the announcements and made these answers easily accessible. Ahmed participated in an edX MOOC where the teacher answered the participants' questions in a video posted on the course page. Sarah said she preferred the teachers to post a video each week answering all the participants' questions, to make their responses more interrelated with the information provided in the videos. The process of making a video and responding to all the questions together, reviewing the students learning and their questions, indicate the teacher's seriousness and dedication to the course.

Henri (1992) developed a framework to address social presence consisting of participative, social, interactive, and metacognitive dimensions which all contribute to the learning process. The emphasis in this framework is on how active participation and learning might influence what are termed 'lurkers' to join in the discussion and learning (Henri, 1992). Interaction with teachers also shifts the dynamic from a teacher-led course to a more interactive and dynamic learning process (Henri, 1992). Some participants in my study, such as Amani and Saud, suggested providing live sessions in the MOOC, where the teacher and the learners could interact in real time, because they believed these sessions would improve the interaction as well as make the learning more enjoyable. Another survey participant commented: "I wish to have interactive voice sessions like *English Town*." *English Town* is a website for learning the English language anytime, anywhere (the name of this website has since changed to *English Live* (<https://englishlive.ef.com/en-us/>)). Amani and Saud's suggestion is similar to a tool that Instagram added which allows users to create a live video for an hour; the user's friends can

then interact in the live video by writing comments and other emoticons provided by the Instagram application. Interestingly, these participants' suggestions and expectations were linked to their previous experiences in online learning and therefore they showed that their perceptions were created as explained by Gregory's (1997) theory (details about this theory can be found in Chapter One, Section 1.4.1).

In fact, I came across some MOOCs that introduced live-stream videos. These live-stream videos had been set as a response to participants who wanted to contact the teacher immediately. This was sometimes a temporary solution in the event of technical problems that prevented the learning materials from being uploaded to the platform. In these situations, I found certain MOOC teachers using Google Hangouts had created a live-stream via which they could introduce their videos. Although this mode satisfied some participants others were confused, commenting that the time was not suitable for them, especially when there was a delay in posting the materials on the course page. In this regard, Latifah explained that written discussions were better than immediate discussions. Latifah's opinion is reflected by McGuire (2013, p.2), who states that offering the opportunity for asynchronous discussion may allow learners to come up with better questions in their own time. They also have the opportunity to consult other sources and thus provide meaningful questions and responses that enrich the discussion with the aid of, but not solely directed by, the teacher. This method helps to foster learner autonomy and encourages independent thinking in students (Rodriguez, 2013). Indeed, there are some successful experiments on providing synchronous lectures in MOOCs. For example, Wong (2016, p.109) hosted a live-video broadcast with the MOOC instructors in his study in order to meet the participants' expectations; the positive reaction this strategy received suggests that the presence of MOOCs' teachers promotes engagement amongst the learners. In addition, some synchronous lectures were set up by adding a Google Hangouts workshop intended to give a model for how to provide feedback; this took place between the teacher and

one MOOC learner while thousands of people watched live around the world (McGuire, 2013, p.2). In another example, videoconferences were provided as a tutorial in which learners could ask questions to the teacher; this was designed to raise participants' motivation and bring the teaching community to the learners (Núñez et al., 2014, p.149).

However, the provision of lectures in real time without saving a version of the videos in the course page may prevent many participants who are busy from benefiting from the lecture. This could also disrupt the principle idea of MOOCs making learning flexible and enabling everyone to watch lectures, complete assignments, and participate in discussions according to their own schedules. The potential middle solution can be achieved through producing a live lecture at the middle or end of the course for discussion in real time while also providing this live session with all course materials in the course page so participants are able to watch it at their convenience.

In conclusion, Koutropoulos and Hogue (2012) confirm that teachers in MOOCs are considered as facilitated, not taught. Facilitators in a MOOC are the teachers and, quite frequently, participants have a passion for the topics and want to share this passion with other people of the same persuasion (Koutropoulos and Hogue, 2012). In fact, I agree with Koseoglu and Koutropoulos' (2016) perception that the teaching presence in MOOCs is much more than just a facilitation strategy. They propose "three interrelated learning design principles aligning with the notion of hybrid presence: *prepare to cede authority, embrace plasticity, and be present with fellow learners*" (p.1). By this, they mean that the teaching presence in MOOCs should consider creating meaningful and receptive relationships among and between learners (Koseoglu and Koutropoulos, 2016). Therefore, Koseoglu and Koutropoulos (2016) suggest that instead of relying on a single facilitative role of teachers, it is important to think about a diversity in teacher roles so that teachers themselves can become learners in their own courses; accordingly, they should also enable and encourage learners to take teaching roles in the



MOOCs environment. In addition, the authors suggest that it is important to use tools in MOOCs that foster mutual empathy and awareness for both teachers and learners in order to present the course authentically (Koseoglu and Koutropoulos, 2016). Similarly, Watson et al. (2016) argue that the teaching presence in the collaborative-constructivist MOOC environment is not just about the teacher; rather, learners also are part of that presence. Although teachers supply the main materials in the course, their presence in answering people's questions, explaining some points, and encouraging participants to supply course content and participate actively with their peers can have a significant impact on learners' participation and increase their motivation to learn. Thus, it is important to consider strategies that increase the presence of both teachers and learners in MOOCs.

#### **5.4.2 Attractive Videos to Draw Participants' Attention**

As highlighted earlier, many participants engage primarily with videos, often skipping over online discussions and other optional interactive course components. This means that videos are a valuable part of the course content in a MOOC. As a result, their design and execution should be well thought out. According to Kulkarni (2016), using videos as an educational medium can efficiently generate greater enjoyment and interest, as well as provide clarity to the teacher's illustrations by explaining the concepts visually. Providing visual information tends to be more engaging and helps learners to maintain and retain interest for longer periods of time (Kulkarni, 2016). However, generating high-quality videos is time consuming and requires professionals in educational design and programmes.

From my observation across a range of courses, it was clear that after the learners joined the MOOCs, they would usually find one or many video clips each week arranged sequentially; for example, the MOOC that I followed in the conducted platform consisted of eight weeks

posted every Friday, and the platform usually informed the participants once the materials were posted by sending an email and posting an announcement on the course page. In that MOOC, the teacher was a Saudi woman and therefore she did not want to show an image of herself in any of the videos of the course materials and all videos were screencasts using PowerPoint presentations in combination with a clarifying voiceover narrative on each slide. This arose from the traditions in Saudi Arabia of females covering their faces from men. Some participants explained their opinions by writing comments about the importance of showing the teacher's face in the videos, and others asked the teacher to include more images in the videos to prevent them from becoming boring. According to many of my informants, seeing the expressions and body language of the speaker helped them to concentrate and focus more. In this regard, Daft and Lengel's (1986) media richness theory provides support for asynchronous video feedback, a potentially valuable tool in designing MOOC videos. The theory claims that the richness of information conveyed will likely differ depending on the media chosen by teachers (Daft and Lengel, 1986). The richest form of information is most effectively communicated face-to-face as it allows for immediate feedback with both verbal and non-verbal cues that convey "information beyond the spoken message" (Daft and Lengel, 1986, p.196). Written communication, however, is ranked much lower based on the fact that feedback is slow and lacks any form of visual cues from the teacher (Daft and Lengel, 1986). Whilst asynchronous video feedback does not have the level of interaction that face-to-face communication does, it does allow for non-verbal cues (Daft and Lengel, 1986). This, however, only works when the teacher is seen in the videos, which was not the case in the MOOC I took part in.

However, many participants generally did reveal an understanding about the teacher's decision to not show her face in the videos. It is known that cultural differences play a part in designing the course, yet the design of the course and particularly the technologies used to deliver the content fell short of participants' expectations. The modern technological era and the rapid

development of smart devices, as well as the previous experiences of online learning at universities for many participants in my study, affected their perceptions of teaching and learning in MOOCs. In this regard, Adham et al. (2016) argue that gender segregation in Higher Education in Saudi Arabia often makes providing online learning and MOOCs challenging for female teachers. The authors conducted a study as a response to this claim that “aimed to develop a socio-interactive communication environment; adopting avatar technology to represent female teachers by enhancing their presence, as well as encouraging interaction with both male and female learners” (2016, p.92). This would allow female teachers to use the Avatar technology in MOOCs to resolve the issue and improve the level of interaction between themselves and the participants.

Generally, in the MOOC that I took, the presentations in the videos were colourful and the teacher’s voice and writing were very clear. SmartArt and pictures that supported the presented information were employed, while important words were emphasised in boldface font or in different colours, and sometimes the texts were animated. This multimodal approach showed awareness of the need to make the most of textual representations of meaning. I noticed that the teacher would emphasise certain words to draw participants’ attention and ask questions to allow participants to think before she explained the point. Indeed, although the videos were recorded, I felt that I engaged with the teacher, especially when she asked us as learners to think about something and watch ourselves. In addition, the teacher would change the tone of her voice and pause at specific points, which made the audience understand her and concentrate better. Signposting was also used regularly in the videos, for instance “Now that we have completed this point, let’s move to another very important point” or “We have done this section, and we will continue with another section”. This helped us as learners understand the course structure, follow-up on our learning, and understand how different elements connected with each other. Furthermore, the teacher always supported her illustration with justifications

and real-life examples, such as those related to our real life or the Islamic culture. Additionally, during the seventh week video, the teacher presented a short video of a real story to support the content. All of these factors help to engage the participant and enhance the communicative and authentic aspects of the learning experience.

Al-Hunaiyyan et al. (2008) argue that designing learning can be enriched by providing information that is relevant to learners' lives, such as by using relevant music or films. This helps learners to make meaning from their learning in their lives. In Guo et al.'s study (2014) of effective video content in MOOCs, they found the following: videos produced with a more personal touch were more engaging than high-quality studio recordings; khan-style tablet drawing tutorials were also found to be more engaging than PowerPoint slides or code screencasts; pre-recorded classroom lectures were not always as engaging when they were cut up and edited for a MOOC; and finally, videos where teachers spoke fairly fast and also with high enthusiasm were also found to be more captivating for the learner. These findings reflect the fact that, to maximise student engagement, teachers must plan their videos specifically for an online format in which videos are interspersed with the teacher's speech and slides as videos are more engaging than slides alone. Presentation styles that have worked successfully in traditional lectures and classroom environments do not necessarily work as effective online educational videos.

All videos in the platform under study followed an identical design with a white background and the logo of the platform for reservation of copyright. One of the criticisms of some of the MOOCs the participants engaged in was that slides sometimes had too much information on them (many lines). The videos were followed up with associated PDF files to clarify anything that was unclear in the PowerPoint that had been used in the screencast videos. It seemed that such materials were being produced alongside the real-time teaching of the course because

these documents often addressed issues and questions that were raised during the course in relation to the screencast videos.

In addition, some participants found the videos boring and not attractive enough to keep their attention. My participants' perceptions were similar to the findings of Zhong et al. (2016, p.958), where 46% of participants found it hard to focus on the videos, negatively affecting their persistence in the course. Moreover, my participants' perceptions support Margaryan et al.'s (2015, p.77) finding from their study of 76 MOOCs that, although all MOOCs are "well-packaged" and scored highly on the course material organisation, the instructional design quality of the majority of MOOCs is low and scores poorly on most instructional design principles.

A further finding was that several participants asserted that the MOOCs' videos were similar to those in conventional online courses, where the teacher discussed in front of a static camera. However, teachers in MOOCs cannot be aware of how learners engage with the course activities as they do not always have opportunities for direct feedback from the students. In addition, such teachers are markedly different from those in classroom courses, where a good teacher will be aware of silent students and try to support and engage them during lectures. Another point is that learners' movements through the courses may not be visible to the teachers (Kop et al., 2011). Therefore, MOOC teachers will need to put additional effort into designing attractive materials to help learners engage with them.

In fact, some participants' criticisms have been mentioned in the literature, such as the "static design and a passive approach to the acquisition of knowledge" (Armellini and Rodriguez, 2016, p.19). Coursera has attempted to improve the design of videos and solve the problem of a lack of interaction by using a kind of artificial intelligence interaction where videos are frequently interrupted to provide simple questions which learners must answer before moving

on. This strategy was designed to test learners' tracking of the material (Stacey, 2014, p.114-115) and to direct their attention to key information.

In order to design effective videos in MOOCs, Brame (2015) recommends that it is important for designers to consider the cognitive theory of multimedia learning. Mayer and Moreno (2003) built the cognitive theory of multimedia learning based on awareness of the two channels of working memory for the purposes of information acquisition and processing: one channel being visual/graphic and the other being verbal/auditory. Although the ability of each channel is limited, the use of the two channels can assist the organising and integration of new information into current cognitive structures. The capability of working memory is maximised by applying the two channels; however, either of these may be overpowered by a high cognitive load. Consequently, design strategies that govern the cognitive load of the two channels within multimedia learning resources have the potential to improve learning (Mayer and Moreno, 2003). In addition, the cognitive theory of multimedia learning articulates the aim of any learning as 'meaningful learning'. This requires cognitive processing, which involves noting and arranging the presented learning material into a coherent structure and integrating it with current knowledge (Mayer and Moreno, 2003). Consequently, it is important for video designers to consider the integration between visual and verbal elements whilst also providing information that touches learners' lives in order to help them organise and integrate the information within their cognitive structures more efficiently. In addition, the cognitive theory of multimedia learning highlights the importance of considering the limited capacity of working memory; thus, video designers should avoid any extra information that is not necessary because this could distract learners. Brame (2015) summarises a few recommendations for designing effective educational videos, including: keeping videos brief and targeted on learning goals; using audio with visual materials but ensuring they are complementary rather than redundant; highlighting important ideas by using signalling (such

as by highlighting the key information with different colours or using symbols); enhancing engagement by using a conversational and enthusiastic style; and using guiding questions, or associated assignments, to encourage learners to be active.

In my study, some participants suggested it is important to help learners concentrate on explanations. For example, Fahad suggested programmes that could be used to allow the teacher to draw illustrations on the board and provide information in a richer variety of ways, such as by showing a video about a certain topic and then asking the learners to follow links to learn about those topics, or showing interviews and so on. Bader suggested the adoption of technology that would enhance interactivity and engage the participants more. It can be deduced from these responses that designing interactive videos that require a response from the participants would draw the participants' attention, improve their concentration, and potentially increase participants' enthusiasm to check the materials. Indeed, these suggestions revealed that the participants are sophisticated viewers and consumers of technology and have developed opinions regarding what is effective. Their perceptions about the design of videos also confirm Gregory's (1997) theory (explained in Chapter One, Section 1.4.1), in which expectations and suggestions are built based on their past experiences, particularly in online learning. The high expectations of these participants about the design of materials reflect their familiarity with using attractive applications on smart devices, and generally revealed that they have very sophisticated tastes about the design and production of online materials.

In addition, although all my participants were Saudi, their perceptions regarding the teacher's decision to not show her face in the videos differed. Some participants did not comment about the teacher's decision; however, there were also participants who emphasised that it is important to think about utilising strategies in this case to help them concentrate as they believed in the importance of seeing facial expressions. Having different opinions from Saudi participants about something relevant to their unique Islamic culture contradicts Hofstede's

ideas of culture (1980, cited in Belshek, 2006) wherein he identified that each group of a particular culture shares the same beliefs and values. This finding highlights the diversity of culture within Saudi society. Using online learning leads to globalisation; therefore, Al-Hunaiyyan et al. (2008) recommend that it is important for educators to construct meaningful frameworks in order to design effective online learning that accommodates different cultures and various learning strategies.

#### **5.4.3 Multiple Short Videos to Increase Participants' Focus**

The division of each lecture into multiple videos in the platform of this study followed the style of many other platforms. Kulkarni (2016) argues that short videos are a flexible teaching medium. Kulkarni (2016) lists many advantages of using short videos in education, for instance short videos could enhance engagement and students will enjoy learning and retain information. In addition, using videos provides students with the ability to stop or rewind to review a segment; these features help students to increase their focus on the information provided (Kulkarni, 2016). However, there was no clear pattern about the length of videos in the platform of my study. In this regard, many participants in this study agreed with the statement “The length of the videos helped me maintain my concentration”, where the mean was 3.74. My own experience in undertaking MOOC courses allowed me to keep a record of the number and length of videos across eight ‘weeks’:



Table 5.15: Number of Videos and their Length

<b>Week number</b>	<b>Number of videos</b>	<b>Length of videos</b>
Week 1	Two videos	14 min and 12 min
Week 2	Four videos	12 min, 8 min, 12 min and 7 min
Week 3	Two videos	27 min and 24 min
Week 4	Three videos	15 min, 14 min and 17 min
Week 5	Three videos	16 min, 16 min and 11 min
Week 6	Two videos	8 min, and 29 min
Week 7	Two videos	23 min, and 8 min
Week 8	Three videos	14 min, 6 min and 13 min

It is clear from the previous table that some videos were about half an hour long, whereas others were just seven minutes long. Indeed, in the first video of the third week the teacher reflected the previous points before moving on to the next point in the same video. This could be because the video was 27 minutes long – an especially long video – and learners’ concentration could drop sharply (Guo et al., 2014). Thus, I discussed the video length with the interviewees in more detail to understand their preferences regarding videos and writing notes without losing concentration and feeling bored.

I found their opinions varied, as some, such as Amal and Nourah, preferred to have just one video in each lecture that would last for approximately 45 to 60 minutes. Amal justified her preference by claiming that she used to listen to videos while she was walking, but sometimes had Internet connection problems. Thus, loading one video would always have been more convenient for her.

However, most interviewees preferred that each week had multiple videos with each video discussing one topic and the length of each video depending on the importance of the topic itself and whether it required multiple examples or extensive clarification. Halah said that the provision of multiple videos could encourage new learners to watch the videos even when they are busy. Ahmed added that short videos are useful because they enable learners to watch them at separate times during the week or during the day. Generally, many participants, such as Faisal, found that dividing the videos for each week facilitates learning and allows easy re-watching. However, dividing videos into short parts requires more time and effort since video production is generally the most time-consuming aspect of MOOC development (Jablokow et al., 2014, p.4).

Regarding the ideal length of each video, some interviewees preferred a video length of five to 15 minutes. Sultan justified this by saying that when the video is 45 minutes, he could not watch it all in one session, but when it was around four minutes, it did not provide clear illustration. Other participants believed that video length should not exceed 20 to 30 minutes. This suggests that the majority of participants generally preferred shorter videos that helped them to learn with more engagement and that did not affect their commitments in other aspects of their lives.

In conclusion, although some participants liked the longer videos, the evidence from studies (for instance Guo et al., 2014, and Glance et al., 2013, as discussed in Chapter Three) confirms that short videos (between six and 15 minutes) enhance the level of attention and focus amongst the learners. In addition, when Skjæveland (2016) studied the benefits and challenges of short videos in the EFL classroom, she found that short videos have a positive impact on students' experiences as they are motivated and engaged and also remember content better. The students in Skjæveland's (2016) study believed that short videos helped them to focus better, learn more, and remember content for longer.

#### **5.4.4 Supplementary Resources to Satisfy Participants' Needs and Levels**

MOOCs often include supplementary files in addition to the main videos that are presented each week. The majority of participants in this study strongly agreed with the statement “The Saudi MOOC platforms (such as Rwaq and Dorooob) met my expectations”, with a mean of 4.21. In fact, in her interview Latifah stated that MOOC platforms had continuously been improving since 2014. For example, she said that while MOOCs used to rely on videos, written files and references have now been added. Latifah found that written files are particularly helpful because she found it easier to read them compared to watching the videos while preparing for her exam. In addition, in her interview Amal claimed that “Reading information is very useful for me, and I can understand more”. Providing content in different forms can meet the preference of several types of participant, such as auditory learners, who like to listen to the teacher; visual learners, who like information to be presented visually; and reading learners, who prefer to read information. This could be why the majority of survey respondents strongly agreed with the statement “The design of MOOCs eases learning for several types of participant”, with mean of 4.50.

In addition, Amani believed that providing the materials in PDF would facilitate learning for those who could not watch the videos because of poor Internet speed. It is true that playing video sometimes requires a lot of the bandwidth and this could take time to load, which is one of the challenges expressed by Kulkarni (2016). In the MOOC that I followed, supplementary resources were available as part of each week as shown in Table 5.16.

Table 5.16: Supplementary Resources of the Weeks

Week number	Supplementary Resources			
	PDF document of PowerPoints from screencasts	PDF document of additional information	Video of an experiment to support the presented information	A link to additional readings
Week 1	√			
Week 2	√	√		
Week 3	√ (However, the last topic in this PDF had not been explained by the teacher in the videos)			
Week 4	√			
Week 5	√		√	√ (They were in English)
Week 6	√			
Week 7	√			
Week 8	√			

As can be seen, the most commonly used supplementary resource was the PDF document made from PowerPoint screencasts. All participants were able to revise, download, and save PDF files easily. Providing PDF documents made from PowerPoint screencasts can help both students and teachers; for example, Harrison (2003) points out that using PowerPoint helps teachers to emphasise key points. In addition, both Harrison (2003) and Plack (2014) argue that PowerPoint comes with pre-formed templates that help teachers prepare professional materials including visually stimulating slides with colourful text, diagrams, and pictures to reinforce content and stimulate interest amongst the students. Moreover, providing written documents enables students to take a general look at the content as a whole more quickly than

videos. This also can help students to identify and organise the key points of the contents (Plack, 2014). Finally, these documents have several print options (Harrison, 2003), which helps students to read them without needing to connect to the Internet or even use a computer. However, as can be seen from Table 5.16, the PowerPoint PDF in week 3 included extra slides about the last topic which had not been explained by the teacher in the videos. This situation caused some confusion for some participants in my study, especially as many of them used either the PDF documents or the videos but not both. The materials that included additional information not included in the videos were added to provide details that the teacher did not have time to explain in the videos. However, this information should have been placed in files other than the PDF documents to differentiate primary information from additional information. The participants' responses suggest that making information presented in videos identical to information in the PDF documents and differentiating these from additional information files would be more convenient for learners. These views indicate that they expected to have a routine of learning and to have common formats about the learning materials to help them follow-up quickly. Due to the loose structure of MOOCs in the study by Zhong et al. (2016, p.959), most learners could not follow the schedule and consequently there was a lower completion rate. Jablokow et al. (2014, p.6) provide a good structure and clear format of MOOCs in this regard. In their MOOC, the videos and reading materials were separated into core content and supplemental content; thus, learners were able to distinguish between them easily (Jablokow et al., 2014, p.6).

Indeed, Plack (2014) argues that using PowerPoint can have a downside for students when they feel it can be used as the sole resource without considering the importance of presenting in the learning community with their peers and listening to the teacher's explanations. Using just PowerPoint materials can limit students' understanding and their ability to apply the key points in their lives (Plack, 2014). Because some of the participants in this study read PowerPoint

files instead of watching videos, it is important to make them content-identical. Therefore, Plack (2014) confirms that the creation of PowerPoints requires dedicated time and effort.

Another area that needs to be improved to satisfy the different level of learners, according to many participants, is the references in MOOCs. Significantly, the design of the course should account for the diversity of learners' backgrounds by providing the opportunity to expand their knowledge through adding different levels of resources that enable everyone to achieve a deeper understanding of the topic content. Latifah and Bader believed that learners in MOOCs would need to expand the information they learned after completing the MOOCs; thus, adding some references to provide further assistance is important. Saud stated that teachers in MOOCs often provide just one or two references, and sometimes these references are unavailable. In this regard, Halah suggested adding an electronic library for the references for each MOOC, and these libraries would be divided into general and specialised references or into different levels: introductory, intermediate, and advanced level. Another survey participant commented that MOOCs should include online references for books and research and argued that the provision of references for visually impaired people should be considered. This indicates the importance of adding a considerable number of references in each MOOC, which differ in their level of difficulty, to help all participants and satisfy all of their needs and backgrounds. De Waard (2015) also confirms that providing appropriate resources to satisfy the needs of participants is crucial for the success of MOOCs as it increases participant retention. Thus, Hernández-Rizzardini et al. (2015) highlight the importance of evolving the roles of teachers in MOOCs as being aggregating, curating, modelling, filtering, and knowledge sense-making for the diversity of learners in MOOCs.

#### **5.4.5 Tasks to Enhance Social Learning**

According to Shah (2018), the design of MOOCs must foster online student engagement and learning through the use of interactive pedagogy that helps students to complete MOOCs. De Waard (2015) confirms that the MOOC space offers a wide variety of facilitation, ranging from the expert teacher who provides the main contents and is a guide-on-the-side to the learners who share their own experiences so their peers can learn from them. From my experience in participating in a MOOC on the same platform used in this study, I found the tasks were in the form of the teacher asking one to four questions in the forums during most weeks. These tasks were not compulsory and didn't count towards the grades for this course. In fact, the teacher provided tasks at the request of participants who wanted some questions each week to promote interaction and knowledge sharing. Thus, the teacher asked questions designed to encourage learners to participate in the discussions and their answers were based on their perceptions or their understanding of the information provided. I realised that most participants preferred to answer questions from their real-life experiences rather than providing abstract explanations. Thus, some participants would write academic-type answers with descriptions and justifications and sometimes with references, whereas others would write answers that were simple and short. Latifah argued that:

Moving from the reception side into the discussion side would have a stronger impact on learning ... and having different learners would have a stronger impact on the content.

Onah et al. (2014b) claim that forum discussions play a major role in peer-to-peer pedagogy and promoting active learning strategies. Moreover, Chauhan (2014) claims that increasing participants' social learning and interaction provides greater autonomy, engagement, and control. Two participants in my study, Latifah and Ahmed, argued that promoting discussion among learners should be considered an important part of learning via MOOCs, especially

because learners are from different countries and can learn a lot from their interactions. Because fostering interactions in MOOCs could have significant positive effects on participants' learning, Johnson et al. (2008) believe that it is important to include intentionally designed interaction within the learning context; otherwise, the valuable interactions are unlikely to result spontaneously. In her interview, Amal made the following argument:

It is better when the teacher or the platform posts questions that require participation in a discussion because we will benefit from this discussion ... not because we are obliged to discuss it. For example, when the teacher gives us a problem related to the course, each learner should try to solve the problem from personal perception. Here I could say I have something new to add, but when learners' answers are the same, I am not motivated to participate in that discussion.

From this quotation, it seems that learners make astute decisions about whether or not to participate in everything a course offers and their decisions depend on the value that can be gained from participation in each course's activities. Despite this, although researchers acknowledge that using forum discussions has many benefits for promoting reflection, Schweizer (2013) found from his experience in MOOCs that discussions sometimes cause frustration because they are unfocused, misinformed, and tentative. Similarly, Onah et al. (2014b) found that peer suggestions and answers in the discussions may be incorrect and unproductive. In addition, Woo and Reeves (2007) found that every interaction does not necessarily lead to increased learning because not all interactions have meaningful implications. This suggests that it is important for teachers to plan strategies to design discussions that can be more constructive and efficient and have positive implications for participants' learning.

Generally, providing questions that rely on learners' interactions to build their own knowledge reflects the social constructivism theory, as explained in Chapter Three, Section 3.3.3. In the constructivist approach, the teacher provides questions or problems as a starting point for all participants to build upon (De Waard, 2015). One case study that demonstrates social learning successfully is called *Personal Learning Environments Networks and Knowledge*



(PLENK2010). This course followed the connectivist model for course design and delivery and encouraged social interaction via knowledge creation and sharing through social media tools and Personal Learning Networks (PLN) (Chauhan, 2014, p.14). It combined formal and informal learning in order to promote learner engagement and interaction (p.14). The tools used by participants in PLENK2010, which included live sessions and group chats, were specific to their needs, goals and personal learning preferences (p.14). According to Chauhan (2014, p.14), the connectivist pedagogy empowered the learners by co-creation of knowledge. Although the designers of PLENK2010 claim that it was built based on a connectivist model, I agree with many researchers, including Barry (2013); Clarà and Barberà (2013); Duke et al. (2013); Kop and Hill (2008); and Mackness et al. (2010), that connectivism is a tool used in learning to connect students with each other rather than an independent learning theory (this issue is explained in detail in Chapter Three, Section 3.3.1). I do not find that connectivism explains how learning occurs and why there are differences between students. It also fails to explain or test effective strategies that educators could use to improve students; rather, it focuses on the tools that students need to use to acquire information. In fact, I agree with Mbatia (2012) that online learning has the potential to stimulate learning on a social constructivist paradigm by using both asynchronous and/or synchronous tools. Thus, I believe that a social constructivist approach reflects how learning occurs in PLENK2010. Constructivism emphasises that students are the main body of learning activity and knowledge is constructed on their own initiatives, whereas teachers play the roles of helpers and drivers for students (Jia, 2010). The approach considers that students enter the learning community with the opinions and rich previous experiences gained from their daily lives and previous education (Jia, 2010). Therefore, teaching activities in constructivism should take into consideration students' previous knowledge and experiences and facilitate social interaction between students to help them construct new knowledge.

Another interviewee, Latifah, experienced another type of MOOC task on a non-Saudi platform where the teacher asked learners to design a project. She said that the first 23 successful projects gained incentives; experts provided the learners with a feasibility study and the teacher adopted the projects for his small enterprise institution. Similarly, Amani stated in her interview that in some programming and computer science MOOCs, the teacher asked learners to design a programme in order to give them practical experience. I experienced one programming MOOC on the conducted platform, and the weekly tasks were problems for which we needed to write code to produce certain results. We were not able to submit any answers for these practice tasks, but some participants liked to share their answers by posting comments. However, the teacher asked the participants not to share the answers because he wanted to give every participant the opportunity to solve the problem before ultimately posting the answer himself after a week. These kinds of MOOCs, which need participants to build new knowledge from their experiences or understanding they gained from course materials and people in the community, may be why the majority of survey respondents strongly agreed with the statement “Some MOOCs activities rely on social constructivism”, where the mean was 4.23. These tasks reflect Vrasidas’ (2000, p.11) argument in which constructivist activities promote the creation of multiple views and perspectives within a different context. There is not one correct answer and there is not one correct way of solving a problem; in constructivism, students are encouraged to utilise multiple ways of solving problems and justify their opinions and solutions (Vrasidas, 2000, p.11).

With regards to participants’ suggestions for the tasks that they wish to see introduced in the MOOC environment, some survey respondents wished for tasks that require learners to work in groups. Other participants’ suggestions confirm Onah et al.’s (2014b) conclusion about increasing the potential of MOOC forums by introducing more tasks that build on peer-to-peer pedagogy and active engagement strategies. Moreover, Fahad and several other survey

respondents suggested providing a research project in order to develop the learners' research skills and increase their open learning.

In short, the results of this study suggest that the majority of participants appreciated the MOOC tasks that help them to obtain new knowledge or to practice skills, giving them the chance to benefit from being in a MOOC community that includes learners from different cultures and backgrounds.

#### **5.4.6 Assessment to Enhance Learning**

As MOOCs continue to grow in popularity and number, there has been an increasing focus on assessment and evaluation in the literature. Both Chauhan (2014) and Hew and Cheung (2014, p.52) argue that assessment is an important element of the learning process for learners and teachers, and designers of MOOCs face challenges in creating assessments that are fair and reliable and that can be marked quickly and efficiently as a consequence of the vast number of students. O'Farrell (2002, p.3) argues that student learning can be enhanced through assessment. According to O'Farrell (2002, p.3), there are many reasons why assessment is important for both teachers and students. Assessment determines whether the intended learning outcomes are being achieved and can also describe student attainment and provide feedback about students' performance (p.3). Moreover, providing assessment increases the students' motivation to learn as well as providing feedback about the effectiveness of teaching (p.3).

Generally, participants in this study who have been assessed on MOOCs were provided with certificates of accomplishment if they achieved at least 60% on their assessment. However, completing archived MOOCs on the conducted platform (which have ended but the content continues to be available) or MOOCs without assessments on other platforms often meant the participant could not earn a certificate. Although certificates of accomplishment are widely

used in many platforms, such as edX and Coursera, some platforms use digital badges as a recognition of learning and achievement, for instance Open Badges (<https://openbadges.org>).

From my observations of a MOOC, I witnessed a teacher opening a discussion in the forum to discuss and negotiate the number of exams in the MOOC. After that democratic discussion, the teacher decided to use one exam at the end of course: a decision based on the most common suggestions from the participants. That final exam consisted of 32 multiple-choice questions. I saw that the questions covered all topics and were graded in terms of difficulty and depth, and while some were easy and direct, others needed comprehensive skills to answer. Learners could answer some or all of these questions and save them as in-progress answers, allowing them to later revise their answers before submitting them. The deadline for submitting the answers was one week after posting the exam. Shah (2018) suggests that MOOCs should maintain flexibility and convenience in the exams and he argues that hard deadlines for submitting exams or assignments are something from the past. Thus, when there is a deadline, it is usually the end date of the course (Shah, 2018).

In terms of the participants' preferences regarding the deadlines, Alya and Fahad suggested that one week is the ideal length of time to be given for completing tasks and they believed that participants should find time within a week to do their tasks. Danah agreed that completing the exams usually only took about ten minutes. Amal and several other participants believed that the lack of submission deadlines for exams or tasks decreased their motivation for completing these exams. The evidence from these participants suggests that longer deadlines could lead to procrastination. Regarding participants who joined late, Shah (2018) found that FutureLearn solved the flexibility by increasing the enrolment window to six weeks before the course ends. In this way, if the enrolment is four weeks, for example, the duration of the course would be ten weeks. This helps participants who have joined late to finish the course at their own pace (Shah, 2018).

Interestingly, I found the teacher was very careful in ensuring the learners understood how to complete the exam, for example by making a mock exam and informed participants that their grades in the mock exam would not be counted. The mock exam included just two multiple-choice questions and the learner could get the result immediately after submitting the answers. In essence, the mock exam may have increased the learners' motivation when doing the basic exam as it might have reduced the associated feeling of pressure. In addition, the mock exam might have helped learners become familiar with the type of questions and the required responses, which could have reduced the time needed in the basic exam.

Regarding the type of exams, I found that computer-graded ones were the only type of assessments used in the exams on the platform of this study; however, I did not see any courses using peer-assessed assignments, which are used on other platforms like Coursera. Many interviewees viewed the online multiple-choice questions as a suitable method for assessment, specifically when catering for a large number of learners. They reasoned that they preferred this type of exam because the teacher could write the questions based on criteria to ensure their clarity, validity, and varied difficulties. In addition, Amal said that solving online multiple-choice questions stimulates learners because the questions are easy to answer and do not require intensive effort and time. Latifah also believed that online multiple-choice questions are adequate because MOOC platforms aim to promote participants' ongoing education. In the literature on testing and assessments, researchers have claimed that one advantage of multiple-choice testing is that it is a so-called discreet method which allows for consistent, objective, and reliable marking (Weir, 1998, p.57). In other words, teachers can mark assessments with reliability and speed since all answers are either right or wrong and personal judgement is not required. Hughes (2003, p.26) argues that multiple-choice questions also give students a "fresh start". This means that every item is independent of previous or subsequent items, and a student cannot be unfairly marked as a result of an earlier mistake.

Despite these points, multiple-choice testing could also have disadvantages in MOOCs. One issue of reliability concerns the fact that if the number of choices in each question is four, students will have a one in four chance of getting the right answer to a multiple-choice question. In addition, Freedle and Kostin (1999) claim that students can guess answers without reading the source material or can become test-wise. Some interviewees believed that multiple-choice is not a suitable assessment choice for every MOOC course; they argued that some courses, such as math or statistics, need questions that require problem solving or following sequential steps to reach a solution. In fact, I took a MOOC about programming, and although the final exam was multiple-choice, the questions required the student to solve the problems and then select the correct choice. The final exam for this MOOC reminded me of the statistics exams that I took as an undergraduate student at university. Similarly, at university, Lama and Faisal experienced multiple-choice questions that were similar to those used in MOOC final exams. However, the difference I found, and that participants agreed with, is that “MOOC assessments provide immediate feedback”, a statement for which the mean was 4.02. This might be why many participants also agreed with the statement “E-assessment is more preferable to me than conventional assessment”, where the mean was 4.11. This suggests that although some of my informants viewed MOOC assessments as similar to conventional courses, many of them preferred online assessments in comparison to conventional assessments. This might be because they have a plenty of time to complete the exam at their own convenience and results are available immediately. Accordingly, Epstein et al. (2002) conducted a study to explore the effectiveness of immediate feedback in multiple-choice testing. They compared the performance of participants evaluated by immediate feedback with participants responding to identical tests with answer sheets. The authors found that the immediate feedback assessment technique promotes learning and increases retention, and students correctly responded to more questions that had initially been answered incorrectly. In addition, Mbatia (2012) asserts that

prompting assessment and feedback is important in maintaining interest and motivation in online learning.

Despite these arguments, many interviewees confirmed that the assessments in MOOCs needed some improvements. For example, some interviewees preferred to have many tasks during the course rather than just one final exam due to the belief that doing some exercises after each week would help them to retain the information. The evidence from these participants highlights that they appreciate assessments that helped them to master their learning. Kazu et al. (2005, p.235) argue that mastery learning means that all students can achieve reasonable objectives by being provided with appropriate instruction and the alignment of assessments.

According to Bloom, mastery learning theory is based on the idea that:

Cognitive introduction behaviors (i.e. pre-learning which is assumed to be necessary for learning a unit) which are the students' characteristics, emotional introduction features (the level of motivation to learn the unit) and the quality of teaching activity are the basic indicators of learning output. (Kazu et al., 2005, p.234)

Therefore, providing students with feedback, correction, and reinforcement after learning each unit to ensure that they reach a minimum level before moving to the next unit enables mastery learning (Kazu et al., 2005). Many studies have highlighted the positive effects of using a mastery learning strategy on student learning achievement and retention (such as Guskey and Gates, 1986 and Siddaiah-Subramanya et al., 2017). The main advantage of using a mastery learning strategy is that each student will have the prerequisite skills to move to the next unit; however, this strategy requires the provision of several tests in each course (Kazu et al., 2005, p.235). Although providing weekly tests in a MOOC requires considerable time and effort from teachers and designers, the potential benefits for students make this strategy worth considering.

Other interviewees liked to have questions that required writing essays or expressing their opinions. In this regard, Haywood (2016, p.74) and Piech et al. (2013, p.1) argue that technology can be used for scale in MOOCs to support offering assessments that enable

learners to peer review and write extended prose rather than merely using objective, multiple-choice exams, which are less efficient in some subjects. Freedle and Kostin (1999) argue that it is also important to consider that a more reliable test will assess different skills in learners and provide a fair representation of a range of different knowledge and skill sets.

Peer-assessment, which involves one learner assessing another by providing them with rubrics that standardise the aspects they assess, prevails in MOOCs (Sánchez-Vera and Prendes-Espinosa, 2015, p.121). Some participants have experienced peer grading in another platform, such as Khaled at Coursera. Other interviewees, such as Reem and Fahad, have experienced peer-assessment during their academic studies at university. The results showed that many participants agreed with the statement “I like peer-assessment”, for which the mean was 3.68. Many interviewees explained the reasons for their enjoyment of peer-assessment, such as using diverse types of assessment, especially for courses that needed more than online multiple-choice questions; providing opportunity for learners to participate in the evaluation process; boosting learners’ skills of evaluation, correction, and critical thinking; enabling learners to view and benefit from peers’ answers and ideas; and encouraging learners to start a forum discussion about the questions. In the literature, peer-assessments have been shown to provide extra benefits such as the ability to minimise the involvement of the teacher (Freedle and Kostin, 1999). In addition, peer review can offer a useful stepping stone towards more official types of assessment, allowing students to build up their confidence and esteem (Freedle and Kostin, 1999). This means that relying entirely on teacher feedback can have certain disadvantages with regards to students’ intellectual development.

Other interviewees liked peer-assessment, but with some restrictions or limitations. For example, Halah believed that the peer-assessment could be useful for MOOCs whose learners all majored in the same field, whereas Reem emphasised that the questions should be short and not require too much time from the learner. This highlights that learners in MOOCs were



paying attention to the required efforts and the benefits they could gain from these activities. According to Dochy et al. (1999) and Krause (2013), studies have shown that peer-assessment is undesirable for learners when the evaluation guidelines or the rubric criteria are not clearly defined and established at the beginning and are not discussed prior to their implementation. In addition, Krause (2013) argues that some learners are very serious in their peer-assessment and give meaningful comments, but the majority are hardly engaged at all because their work is not checked by the teacher. This shows that the learners may not be provided with accurate or consistent feedback in their peer-assessment. This area needs to be addressed.

Bali (2014, p.51) argues that it is important for designers and teachers of MOOCs to consider how to balance encouraging participants to complete the course and offering activities that rely on critical thinking and deep learning. Bali (2014, p.51) also believes that encouraging completion can be done through making deadlines flexible and being helpful; however, it is also important to think critically in providing assignments that not only ask for simple recall of information, such as by asking learners to apply what they learned and analyse and reflect deeply on their own personal experiences. Significantly, the time taken by learners needs to be shorter than in formal exams to encourage participants to do the assessments, especially since many participants in my study did not view the assessments as important for their learning and many of them did not complete the tests.

#### **5.4.7 Pedagogic Orientation**

In order to understand the pedagogic orientation of the MOOCs and the learning theories that clarify how learning occurs in the conducted platform, it was important to understand and analyse the course organisation and the contribution of learners in supporting the content as well as opportunities for and the value of interaction. These elements have been discussed

previously (in Sections 5.4.2, 5.4.3, 5.4.4, 5.4.5, and 5.4.6). Generally, Layton (2013, p.1) argues that it is important to note that MOOCs are different, at least in theory. However, although each MOOC varies in design and structure (Koutropoulos and Hogue, 2012), Bayne and Ross (2014, p.58) argue that “MOOC platforms are commonly aligned with particular orientations towards pedagogy”. In this regard, Wong (2015, p.49) examined the pedagogic orientations of 32 MOOCs on four platforms: namely Coursera, edX, FutureLearn and OpenLearning. Wong (2015, p.59) showed that the design of MOOCs may be influenced by their platforms. For example, although all the platforms provide similar teaching components, including videos, text materials, assessments, and discussions, the proportions of these components vary from platform to platform (p.54-55). While Coursera and edX in general have a higher proportion of videos in their courses, FutureLearn and OpenLearning have more active social interaction involving exercises and discussions (p.59). This may reflect the teaching approach adopted by each platform. For instance, Bayne and Ross (2014, p.52) explain that Coursera and edX started from the US-based instructivist approach by utilising star lecturers who had the desire to convey their perspective to individual learners. Subsequently, learners could sustain their learning via social aspects such as engagement in forums or working with their peers, “but the notion of large-scale social learning isn’t underpinning the entire design of those platforms”. In contrast, FutureLearn uses UK/European pedagogy, which is primarily based on social constructivist learning (Bayne and Ross, 2014, p.52). The concept of social constructivist pedagogy may confirm Núñez et al.’s (2014, p.148) point that “Internet users are no longer simple information consumers but they are also information producers”. In other words, the main principle of a MOOC pedagogy should be enabling participants to create new knowledge in an open, collaborative and social environment, and in this way knowledge can enhance the MOOC itself and provide continuity within the learning community (Núñez et al., 2014, p.148). From this comparison of MOOC pedagogies, it is clear that rather than being the

same or predefined the pedagogy is determined according to the design of the course activities and the platform orientation of these courses. These factors can determine whether a course is built on a social constructivist or objectivist approach, for instance.

However, Wong (2015, p.60) believes that categorising the pedagogy of MOOCs into instructivist and social constructivist approaches can be driven back to the division of MOOCs into cMOOCs and xMOOCs (I explained these types previously in Chapter Three, Section 3.2). Bayne and Ross (2014, p.4) found that these two categories of MOOCs are no longer useful and there are many different forms and intentions of UK MOOCs that do not have MOOC pedagogy embedded in their platforms. This indicates that each MOOC may be designed differently based on each one's particular goals. Particular strategies can be used to best serve certain kinds of goals (Hmelo-Silver et al., 2014, p.1).

From the previous discussion, I found the teacher's resources in the platform of this study (particularly the videos, written materials, and some multiple-choices exams) to be compatible with Stacey's (2014, p.114) conclusion that all new MOOCs at Udacity, edX, and Coursera platforms are based on behaviourist and objectivist pedagogies. These pedagogies assume that social learning is not feasible when a course has tens of thousands of learners. Using the objectivist and behaviourist methods of teaching and learning, which rely on the transmission of the contents, may be the easiest way to deliver the content online to so many people, especially when learners come from vastly different geographical and cultural backgrounds. Although Stacey (2014, p.115) states that learners seem to find the pedagogies of online behaviourist and objectivist learning impersonal, boring, and not engaging or interactive, I believe it is crucial for delivering basic content, especially since learners in MOOCs have different levels of expertise. This is because it is possible that learners who join MOOCs that are not related to their academic fields will struggle if the course activities rely on social constructivism, particularly as this approach needs more effort from learners and requires

interactions with peers, which is not preferable according to several of the responses in my study.

However, I did find that some kinds of social learning can be seen in the discussion forums, such as when learners presented arguments, shared their own experiences, added new information, asked questions, negotiated their thoughts, and summarised some points or added explanation. In addition, the findings showed that some participants experienced tasks in the form of the teacher presenting problems or questions which they were required to think about and discuss in the forums. In fact, I realised that teachers in MOOCs perceive that learners vary in their backgrounds and therefore they expect support and effective participation in the course when participants are invited to supply their own content by sharing knowledge and being active in the discussions. Other participants experienced tasks in the form of designing projects that aimed to reflect their learning in real-world situations, such as designing a feasibility study or designing a programme by using particular software. Such activities that rely on using tools (such as forums, materials, etc.) to create meaning are similar to those of the constructivist approach (Vrasidas, 2000, p.11). Interestingly, there were participants in my study who valued activities that gave them opportunities to work and interact with their peers in order to contribute to constructing parts of the course content and contribute in a positive manner to the learning community. As a result of this, these participants wished to have more activities and projects that help them to reflect their learning in their lives.

From the discussion above, it is evident that learning in MOOCs occurs through both objectivism and social constructivism pedagogies. In this regard, there is literature that emphasises the potentiality of using a mixed approach (objective and social constructive approaches) in designing and developing online learning (for example Moallem, 2001; and Vrasidas, 2000). I found this was reflected in the design of the learning activities of MOOCs in my study. Vrasidas (2000, p.14) believes that using mixed pedagogies avoids the two

extreme ends; his argument is that the objectivist approach can be appropriate sometimes, and the constructivist appropriate at other times. This depends on the learners, the content, the context, and the resources (p.14). Moallem (2001, p.117) believes that the design of online learning should facilitate and address the differences in learners' backgrounds, needs and learning styles by providing greater experiences for each learner. This can be accomplished by utilising mixed learning design models (Moallem, 2001, p.117), which have already been outlined in this study. The basic information for the course was provided by the teachers in the videos and written files, which are suitable for all learners. The tasks or exercises usually aimed to promote interactions between learners and encourage them to apply information to a real-life context and make their learning meaningful. These kinds of tasks or exercises placed value on social interaction with peers and required more effort from learners to discuss their viewpoints.

Therefore, it is important to redesign the general learning goals of the platform to support both objectivist and social constructivist learning. This is because during their design MOOCs are often focused on platform goals. For example, by looking at the pedagogy described in some platforms, Stacey (2014, p.114) found that edX is aiming to offer online laboratory-intensive courses for thousands of people, while assessing the abilities to work through complex systems, complete projects, and write assignments. The pedagogical foundations of Coursera provide a flipped classroom opportunity to its university partners wherein the MOOC offers video lectures, reading materials, some assessments, and peer-to-peer interaction, whereas the activities on-campus are predominantly focused on active learning; this leaves participants who are not campus-based students with no active learning component (Stacey, 2014, p.114).

Bayne and Ross (2014, p.8) conclude by emphasising three key messages: (1) there is now more need to think about MOOCs by analysing their pedagogy at a micro level of single course design; (2) it is important to pay more attention to the convergence of multiple social and

material influences when MOOC pedagogy is enacted, including teacher beliefs and preferences, patterns of learner engagement and expectation, disciplinary influences, and other contextual factors such as the institution's teaching culture; and (3) although teaching functions in MOOCs are often delegated to automated processes and community-based social learning, the teacher's place and visibility remains of central importance, thereby the intellectual, emotional, and time commitments of teachers have a significant effect on MOOC teaching.

From my experience, I think analysing the pedagogy of MOOCs should include many elements: the roles of teachers and learners, the organisation of the course and the aims of the activities, and learners' extent of participation in the course contents. However, it can be clearly seen that these elements vary in each MOOC (such as the MOOCs that I compared in Chapter One, Table 1.1), and consequently evaluating MOOC pedagogy becomes more complicated. The advancements in the technologies of teaching and learning that MOOCs offer may require new learning theories that fit with the contexts of different MOOCs.

In conclusion, MOOCs have evolved through time both theoretically and practically. Today, there is a more urgent need to design content using attractive and advanced multimedia to meet the high expectations of users in this era of speed and technology. Thus, it is important to think about designing online learning that has a more engaging and interactive environment by using advanced technologies effectively in the widest context. Moreover, it is important to rethink the effective practice and learning theories that support teaching open courses to masses of people around the world. Although using video is already a highly efficient educational tool for delivering content over the Internet to unlimited numbers of learners and supports the flexibility of time and place (Haywood, 2016, p.74), the design of MOOCs should also be focused on learning activities where the learners' contributions are a priority.

Wong (2016, p.114) identifies six areas that could lead to effective teaching in MOOCs that involve good usage of technology as solutions in teaching and learning while understanding

the special conditions and constraints of online environments. These areas are: (1) preparation: understanding the various aspects of the MOOC environment and its development (p.108); (2) attraction: considering how to draw learners' attention and arouse their interest in the course by using, for example, effective introductions that discuss the format and the expectations of the course (p.108-109); (3) participation: employing procedures and effective technologies that help learners to encourage their participation, engagement, and interaction with the course contents, for instance using effective multimedia and issuing certificates (p.109); (4) interaction: encouraging learners to interact with participants in a MOOC community to foster learning (p.109); (5) consolidation: enhancing assessments and providing feedback to help learners reflect and apply their learning (p.112); and (6) post-course support: monitoring learners continuously after a MOOC is completed to identify any issues that could improve the effectiveness of the course, such as exploring time consumed by learners when viewing video clips as this may reflect their learning and observing the effectiveness of teaching materials (p.112-113).

## **5.5 Saudi Participants' Perceptions of the Social MOOC Environment**

According to White et al., (2014, p.8), MOOCs can represent an opportunity for socialisation. The social environment in a MOOC can be defined as the online community of a group of people who join a particular course because of a common interest related to the course content. The participants in my study interacted with people in MOOC communities via various communication tools, such as discussion forums, emails, and social networks. Maasen (2017) defines the MOOC community as a group involving individuals, feelings, and unity. In addition, Maasen (2017) argues that individuals can have a sense of community via four elements: membership, meeting needs, influence, and a shared emotional connection. However, although participants in MOOCs share the same interests, they do not necessarily feel united (Maasen, 2017). This is because not all participants in MOOCs necessarily agree about the ideas or have the same perception about the MOOC; thus, they are not necessarily united. Some participants in MOOCs highly rated connections with others as they found these connections helped them to meet their needs. This will be discussed in the following subthemes. To understand my participants' perceptions about the social MOOC environment, the survey participants responded to a number of statements that were designed to discover their perceptions in this regard. Such responses provided evidence of the extent of the participants' social relationships, interaction, and collaboration with other learners or teachers within the MOOCs. Additionally, they revealed some participants' feelings about learning alongside a considerable number of individuals from different countries. Table 5.17 displays the participants' responses from Part 3 of the survey, which concerned the social environment of the MOOCs.



Table 5.17: Part 3: The Social Environment of the MOOCs

No	Statements	Likert Scale					Mean	Std. Deviation	Rank	
		Strongly agree	Agree	Neutral	disagree	Strongly disagree				
1	Using MOOCs helped me to acquire new colleagues in my discipline.	Freq.	38	59	114	60	19	3.13	1.08	8
		%	13.1	20.3	39.3	20.7	6.6			
2	I can build a productive relationship with the teacher in MOOCs.	Freq.	53	106	100	26	5	3.61	0.943	7
		%	18.3	36.6	34.5	9	1.7			
3	I can build a productive relationship with the learners in MOOCs.	Freq.	58	100	103	23	6	3.62	0.959	6
		%	20	34.5	35.5	7.9	2.1			
4	MOOCs increase the opportunity for collaboration between learners.	Freq.	70	129	71	16	4	3.84	0.900	4
		%	24.1	44.5	24.5	5.5	1.4			
5	MOOCs add an international dimension to the learning experience, which makes the learning more global than local.	Freq.	130	132	27	0	1	4.34	0.675	1
		%	44.8	45.5	9.3	0	0.3			
6	My motivation to learn increases when I can communicate with other learners in the MOOCs.	Freq.	88	106	77	14	5	3.89	0.953	3
		%	30.3	36.6	26.6	4.8	1.7			
7	I enjoyed sharing experiences with other learners in MOOCs.	Freq.	79	94	99	14	4	3.79	0.944	5
		%	27.2	32.4	34.1	4.8	1.4			
8	I prefer to join MOOCs that have a large number of learners who are participating in the forums.	Freq.	114	96	68	10	2	4.07	0.909	2
		%	39.3	33.1	23.4	3.4	0.7			
General Mean = 3.78										

The results from the responses to the eight statements are ordered in rank from the highest mean to the lowest. Although the general mean of all responses to the statements in Table 5.17 was 3.78, showing that the respondents' responses were generally agree, it was the lowest general mean compared with the previous two questions represented in Parts 1 and 2 of the survey. The mean score of most statement responses was between strongly agree and agree; the statement "Using MOOCs helped me to meet new colleagues in my discipline" was the only statement that had a mean score of 3.13, which represented a neutral response from the

majority of participants. This might be a result of a sense of distrust of others' identities, especially as a MOOC is a virtual environment and does not ask for proof of identity and therefore impersonation is possible. Further discussions about this issue are provided in the following subthemes.

The participants' perceptions of the social MOOC environment were classified into subthemes, as shown in Table 5.18, along with the data collection method used in each subtheme. The emergence of these subthemes is generally affirmed by the repetition of participants' responses and from the review of the literature involving social communities in MOOCs.

Table 5.18: Themes Developed in relation to Participants' Perceptions of the Social Environment of the MOOCs

Theme	Sources		
	Survey	Observation	Interviews
5.5.1 Value of the Community and Interactions	√ (6)	√	√
5.5.1.1 Diversity of Learners	√ (5-8)	√	√
5.5.1.2 Collaborative Community	√ (4-7)	√	√
5.5.2 The Types of Participant in MOOC Communities	√ (1-2-3)	√	√

The subthemes of the participants' perceptions of the social MOOC environment are outlined in more detail in the following sections.

### 5.5.1 Value of the Community and Interactions

Holland (2014, p.2) argues that although reading the course materials and monitoring the discussions in MOOCs has value, personal engagement with other learners is important

because they might know something new. According to Holland (2014, p.2), personal engagement can be undertaken by adding value to people's comments, posting relevant information and calling for a response, and extending the course resources. Generally, many survey respondents and interviewees appreciated the opportunity to communicate and interact with each other, as well as with the teachers, and it appeared that they enjoyed doing so. My participants' appreciation of the MOOC communities could be seen in different ways. One, for example, was when they presented arguments and encouraged all learners to participate in discussions, share their experiences, or give the teacher feedback about the course. In addition, whenever someone asked a question, I found these participants would post answers even though the question was predominantly directed to the teacher. Maasen (2017) argues that individuals in social MOOC environments may find the learning process more fun, efficient, and faster. This point was confirmed by many interviewees, including Faisal, Nourah, and Danah. Indeed, Danah reported in her interview:

When I ask a teacher a question, he might be busy, so in a traditional course, I may have to wait two or three days to receive an answer. But in a MOOC, once I write a question, I receive many answers from other learners or experts. Some of them had useful answers that benefited me later on.

For this reason, Maasen (2017) suggests that before a course starts, it could be beneficial to invite experts and well-known people who are interesting in the MOOC's topic to share new and valuable knowledge that could enrich the participants' experiences further.

In addition, the discussions and interactions within the course seemed to affect participants' motivation and their retention on the course. This was clearly shown in the results to the survey statement "My motivation to learn increases when I can communicate with other learners in the MOOCs", which generated a mean of 3.89, indicating that most generally agreed with this statement. Currently, the correlational analyses from some MOOCs show a reliable connection between social support (particularly in forum discussions) and course retention (Hmelo-Silver

et al., 2014, p.1). This indicates the importance of social integration in achieving greater learning success in MOOCs. Thus, Hmelo-Silver et al. (2014, p.1) argue that social engagement in MOOCs can broaden the potential learning impact. Dolan (2014) gives an example that confirms the importance of communication and interaction with people in MOOCs; when she experienced difficulties in getting responses to her questions in MOOCs, this negatively affected her motivation to complete the MOOCs. She experienced extreme frustration due to feelings of social and intellectual disconnection (Dolan, 2014).

Generally, my participants' appreciation of the community was due to two main factors which can be divided into two themes: diversity of learners, and collaborative community. These themes are considered in the following sections.

#### **5.5.1.1 Diversity of Learners**

Participants perceived that communities in MOOCs had enabled them to learn with people from various countries and this was something that they had never experienced before. In addition, many interviewees confirmed that the MOOC enabled them to interact with participants of different ages and educational backgrounds, including people that were specialised in the course discipline and professors. Amani reported that MOOCs have an advantage not usually found in face-to-face courses: a combination of male and female participants. Moreover, these participants seemed to prefer learning with a large number of people as the results demonstrated that the majority of survey participants generally agreed that they prefer joining MOOCs that have a large number of learners who are participating in the forums. These unique characteristics of participants have also been confirmed by many researchers (such as DeBoer et al., 2013; Dolan, 2014; Gillani et al., 2014; and Lim et al., 2017), all of whom argue that interaction in MOOCs occurs among diverse learners with

different ages, nationalities, and social and cultural backgrounds. According to Sallam (2017, p.568), the enrolments on the Rwaq platform come from 172 countries with the ages of 70% of participants between 17 and 34 years. In addition, Rwaq teachers and professors come from 13 countries (Sallam, 2017, p.568). Rubin (2013) comments by saying that MOOCs could enable women in Riyadh and Islamabad to take part in courses alongside participants in Kansas City and Anchorage. This would result in more informed and impassioned discussions (Rubin, 2013). According to Belanger and Thornton (2013, p.15), the size and diversity of the population in MOOC communities enhances the course experience for both teachers and learners.

Many participants found that the diversity of learners helped them to open their eyes to new opportunities to benefit further from the international expertise in their fields, thus making the learning experience more global than local. Additionally, it provided them with a feeling of internationalisation, which was not previously possible with online learning. My participants' responses confirm DeBoer et al. (2013, p.16), who found that "the first edX course had over 150,000 students enrolled, which included registrants from nearly every country in the world, bringing with them massive international diversity". DeBoer et al. (2013, p.17) also found that learners in MOOCs are highly mobile in multiple countries, and this indicates that the community of MOOCs includes a global audience, whereas many online learning systems are geared towards local populations. Interestingly, I noticed that some participants understood and considered the diversity of learners as they provided references that answered participants' queries and added new information in different languages to satisfy the participants' diversity (such as Arabic, English, and French). Furthermore, I found that when a participant was confused by a course attachment in English, one of the other participants added a link to the same information in Arabic. This suggests that such participants considered the language

preferences of others and were aware of the cultural mix in MOOCs; thus, they wanted to ensure that all participants could understand and benefit from the information.

The diversity of learners in MOOCs reflects aspects of socio-cultural theory, which has suggested that there are many learning benefits in communities when the learners are from different cultural backgrounds. According to socio-cultural theory, learners in MOOCs are not “blank slates”; instead, they “bring with them a set of ideas and belief systems, adopted from the social and cultural group to which they belong” (Lemke, 2001; Palincsar, 1998; Vygotsky, 1978, as cited in Barak et al., 2016, p.50). The different cultures of the learners in the MOOC environment create differences in terms of their communication style, rules of behaviour (Barak et al., 2016, p.50), learning resources, and language or dialect. For example, Sarah reported that a non-Saudi participant showed her a YouTube video featuring a teacher she had never seen before. This highlights the great opportunity that MOOCs may provide for interaction and involvement with people from different cultures and age groups. This rich mix allows each learner to benefit from other participants’ experiences and ideas, which ultimately leads to a much greater and a more effective learning environment. Being in a MOOC with a wide range of participants requires learners to invest in opportunities to interact with different people in order to maximise the learning benefits. It would also change the participants’ culture and their lifestyles. This viewpoint reflects Street (1993) and Herskovits’ (1945) argument as discussed in Chapter One, Section 1.4.2 since both theorists asserted that individuals constantly change their culture as a result of the new knowledge and experiences gained throughout their lives.

### **5.5.1.2 Collaborative Community**

MOOC communities could offer unique opportunities for collaboration between learners (McGuire, 2013). They represent an important model of social learning and they can become important sources of knowledge (Núñez et al., 2014, p.148). Many participants in my study perceived that MOOC communities have helped them to understand the courses more effectively and it has increased the collaboration between them. This is because learners in MOOCs are diverse in terms of their educational background, particularly with regards to the course subject. As we would expect, some learners seem to be more educated and knowledgeable than others. For example, forum discussions helped Haifa, who is educated in a different field, to identify new economic terms within an economics MOOC. Sarah supported this claim by pointing out that she returns to participants' discussions and reads their comments when she is doing research, and in particular she has found that participants have introduced new ideas, advice, explanations, and resources that can be beneficial for her research. Nourah found that the discussions included some thought-provoking insights and new points. These participants' responses suggest that the discussions within the MOOC enabled them to cover the topic from various viewpoints because they found that when the teacher missed some points, the participants asked questions, which resulted in a significant amount of new and useful information.

In fact, my participants' responses were similar to Shah (2018), who found that discussion forms helped him to finish some difficult MOOCs that he might not have otherwise completed. The study by Hew and Cheung (2014, p.51) provides some evidence that learner support (whether from the teacher or peers) is a crucial aspect of learning. Additionally, the study by Chang et al. (2015, p.540) found that learner discussions in MOOCs allow learners to collaboratively strengthen the learning process and provide a richer reflection of perspectives because they can share deeper opinions and experiences and are more likely to generate new

knowledge (Maasen, 2017). Koutropoulos and Hogue (2012) argue that participants' weekly contributions to their peers can help them to gain both a better understanding and an expanded understanding because the participants' conversations may fill in the missing gaps in course knowledge and help participants to discover things that they didn't know. In addition, discussion "allows weaker students to raise questions or comments that they are not very sure of, and get their doubts cleared by the instructor, and at the same time challenge the better students" (Martin, 2012, cited in Hew and Cheung, 2014, p.51). When learners interact, they can reformulate the course material to support each other; this helps to foster deeper meaning (Koutropoulos and Hogue, 2012) and it may be considered as an induction of deep learning, which could encourage them to remain on the course and apply the knowledge gained in their future lives (McGuire, 2013; Onah et al., 2014b, p.1).

I found that learners in MOOCs played a significant role in supporting and answering other learners' questions and sometimes they became guides for other learners. The support provided by some learners in my study supported the teachers' role in a traditional class. According to McGuire (2013, p.1), the extended interaction among a considerable number of learners can partly compensate for the limited availability of one-on-one attention learners receive from the teacher in the MOOC environment. The peer learning that is expected to occur in MOOC communities is critical to distinguishing MOOCs from other traditional lecture courses and thus should be encouraged.

From the aforementioned discussion, it is reasonable to argue that MOOCs have the potential to enable learners to collaboratively create knowledge. According to Layton (2013, p.2), learning by collaboration, wherein the sources of knowledge are moving in all directions between teachers and learners, and especially between learners and learners, is a unique feature that is present in a MOOC; understanding in such an environment continually evolves and expands.



However, it is important to understand the conditions of collaborative learning and when this theory is relevant to the interactions of MOOC participants. Although some educators who discuss this theory use the terms “collaborative learning” and “cooperative learning” interchangeably (Panitz, 1999, p.12), and although both of these terms are used within group learning settings, there are some differences between them. It seems that the procedure and the focus of the learning make up the main distinction between the two approaches. Davidson and Major (2014) clarify that the focus of cooperative learning is on students working together, or interdependence (p.21), and helping each other learn the course content (p.16). In contrast, the focus of collaborative learning is “working with each other (but not necessarily interdependently)” to understand, discover, or produce knowledge (p.21). Specifically, the participants in my study interacted with each other in the discussion forums to provide answers to other learners’ queries, help each other in understanding the content, and share their experiences. I found their procedures and goals of interaction to be closer to collaborative learning because they independently participated with personal intuition to create or share knowledge with no guidance from the teachers, and this rendered the learning in the discussion forums student-centred. I have used the terms “cooperative” and “collaborative” interchangeably in this study to refer to a process in which students attempt to share information or resources or even answer other students’ questions in the forums in order to help each other in their learning or expand their knowledge.

In some studies involving MOOCs (such as, Gillani and Eynon, 2014, and Firmansyah and Timmis, 2016), a framework has been introduced to describe the learning environment as “communities of practice”. Wenger (2006, p.1) defines a community of practice as groups of individuals who share a common concern or a passion and who engage in collaboration by regularly interacting within a community to learn how to better achieve shared objectives. However, it seems that communities of practice apply only to certain MOOCs since it depends

on the learning methods in the course, which identify the manner and the frequency of interactions. For example, Firmansyah and Timmis (2016) conducted a study on IDCourserians, a community that aimed to gather Indonesia's Coursera learners in order to localise the content of courses for Indonesians by implementing many face-to-face and online methods, including study groups, seminars, and discussions. IDCourserians helped Indonesian Coursera learners by adjusting subjects and examples to fit Indonesian culture and translating materials into the local perspective (Firmansyah and Timmis, 2016). Since the members of IDCourserians interact more frequently and mutually engage in a joint enterprise as a group, working to achieve a shared aim (localising MOOCs for the local Indonesian community) Firmansyah and Timmis (2016, p.19) state that IDCourserians could be considered a community of practice.

This contradicts the study by Gillani and Eynon (2014, p.23), who argue that MOOC learners who participate in online discussions form "harbor crowds, not communities of learners" as they only participate fragmentally in online discussion forums. It seemed that the participants in Gillani and Eynon's (2014) study were less mutually engaged as they did not work together to create or adopt resources, and that was why those MOOC discussion forums were far from being communities of practice. I have found that the learners in my study resonate with Gillani and Eynon's (2014) study in that their interactions were limited to online forums and that they were simply acquiring knowledge by receiving information from each other. Learners were not working together to produce new resources, which in community of practice theory is known as a "shared repertoire". A shared repertoire is one of the most important elements that distinguish a community of practice from other communities, and it refers to the set of resources that the community members create in pursuing their joint enterprise (Wenger, 1998, p.82). I found that the learners in my study were not forming communities of practice; instead, like the learners observed by Gillani and Eynon (2014, p.23), they often engaged in discussions

in the forum at different levels of participation as ‘crowds’. That is, rather than connecting directly with others and negotiating meanings, they were merely adding comments to an existing bank of comments. This is an area that merits further study since it goes to the heart of what is meant by communities of practice and how we can form these communities in MOOCs.

### **5.5.2 The Types of Participant in MOOC Communities**

In my study, the participants can be classified into three groups based on their perceptions regarding their experience of social communities in MOOCs. The first group was very positive and enthusiastic and found that the benefits from the learning community are sometimes superior to the course content itself. Consequently, some of these participants built relationships with other people with the same interests in the MOOC. Many interviewees used email or social media to communicate with each other. Nourah justified her point by saying that most people in MOOCs are there voluntarily and their goal is to spread knowledge, so when she needed some help, she turned to them before consulting her university professors because she thought that these individuals would be more helpful than the professors. This result is in line with a study by Belanger and Thornton (2013, p.16), who confirm the existence of positive and supportive communities in the forums. At the end of the course within Thornton’s (2013) study, learners even discussed the courses they planned to take together in the future on Coursera.

The main reasons that encouraged my participants to form relationships and keep in touch with people in the MOOCs were to request help or guidance and to discover and share news in their fields. For example, Danah reported in her interview that she formed a relationship with a social specialist living in southern Saudi Arabia. Similarly, Reem stated that she maintained contact

with one of the participants that she met in the MOOC because they shared the same interests and worked in the same field. Maasen (2017) refers to this kind of participant in MOOCs as '*connecting*' people who want to meet and connect with new people. Thus, Maasen (2017) believes that the technical aspects of MOOCs should make connections between participants possible. This can be done by allowing participants in MOOCs who share personal interests to make conversation and work in small groups, thus helping them to feel a sense of community and build trust (Maasen, 2017).

Interestingly, some of my participants, such as Khaled, even expressed their desire to maintain the community after finishing the course by forming groups in programmes such as Telegram in order to continue discussing certain subjects and books and to foster collaboration. The participants' desires in my study are compatible with the suggestion made by Koutropoulos and Hogue (2012), who emphasise the benefits of staying connected with other people in a MOOC after its conclusion. This includes being informed of any news or new developments on the topics via posts on social media or blogs.

The second group appeared to prefer being silent learners in that they liked to watch the videos and read the materials without any intention of communicating with the other people in the MOOC. Maasen (2017) refers to this kind of participant in MOOCs as '*collecting*' people who simply want to gain knowledge. Amal, who did not form any new relationships in MOOCs, disclosed that she is not talkative in real life and this also applies when she is online. Some participants in my study claimed that the method of learning did not foster communication: as Fahad stated, there were no tasks that required collaboration or group work. Latifah found that other learners' comments were short and not connected to each other as participants did not discuss certain topics in particular depth. This finding confirms Onah et al.'s (2014b, p.4) assertion that meaningful discussions appeal to some learners but not to others. When discussions turn into chats about irrelevant matters and consequently engaging in these

discussions becomes a waste of time, Maor (2003, p.130-131) found that intervention and guidance from the teacher can successfully stimulate constructive discussions. Dolan (2014) found that when learners in MOOCs experience a lack of meaningful interaction with other participants or when they perceive that participants or teachers ignore their contributions, they feel isolated and/or neglected. Onah et al. (2014b, p.4) claim that the isolation felt by some participants can be because some learners start late or are not being able to understand what is being discussed; these learners can feel discouraged when they do not have enough support from others.

In fact, some silent learners in my study stated that the main reason for being silent and not engaging in discussions was because participants' posts and comments were so numerous that they often missed the valuable ones. This finding supports the results of McGuire (2013, p.1), who argues that "most MOOC discussion forums have dozens of indistinguishable threads and offer no way to link between related topics or to other discussions outside the platform. Often, they can't easily be sorted by topic, keyword, or author". Similarly, De Waard et al. (2011b) believe that MOOCs seem to be chaotic learning environments in which openness brings a high degree of complexity that requires greater organisation. Consequently, the extensive size of MOOCs can breed a sense of isolation within the crowd for some learners (McGuire, 2013). One of my survey respondents suggested that posts should be reviewed before being posted in order to facilitate reading. To reduce information overload and increase the effectiveness of meaningful interaction, Koutropoulos and Hogue (2012) suggest that before sharing information in the MOOC, participants should check to see whether similar information has already been posted; in such cases, replying in that specific thread is much better than creating a new one. This could help readers make connections between posts and facilitate the navigation through discussions. Writing a notice that reminds participants to check whether there is already information related to what they intend to post may also be helpful. In addition,

it is important to develop some strategies for organising the discussions to make them more efficient.

Finally, the last group of participants in my study raised some concerns regarding the authenticity of other participants' identities or appeared sensitive to some of the discussion topics and felt uncomfortable participating in such discussions. Indeed, Fahad suggested that the identities of the participants in MOOCs might not be genuine: he said people may use "fake names and pictures" as the platforms did not ask participants to provide ID or evidence of their qualifications. Fahad believed that the teachers in MOOCs are the only ones with verifiable identities. Another issue that causes discomfort in discussions is misunderstandings arising from cultural differences. For example, Waleed preferred to learn individually without any social interaction because he believed that participants in an open online learning are from different religions and parties and they hold different doctrines; in his experience, this affects their thinking and ways of speaking and could lead to a collision. In addition, in the MOOC that I enrolled in on the same platform, one of the participants asked a question and someone replied to her using a local expression. Since these participants were not from the same culture, the enquirer misunderstood the response as offensive. However, after some discussion, they apologised and reconciled the issue. Additionally, Onah et al. (2014b, p.1-4) found evidence of "bad behaviour" in some MOOCs when the majority of participants use the discussions for complaints and post negative and ill-mannered content, which disincentivises other learners from engaging in the discussion. According to Maasen (2017), an important way of establishing an efficient MOOC community is to create trust by fostering activities that help people get to know each other or at least feel comfortable with each other. Therefore, this issue raises the importance of developing some relevant terms and conditions for participation that reflect the Saudi Islamic culture. Such rules should include taking into account Islamic ethics in terms of respecting everyone and not resorting to extremes or prejudice, especially when the

participants are adhered to different religious and cultural doctrines. It is important to monitor participants to ensure that their responses are not offensive to other participants' religious sensibilities. Making MOOCs environments convenient for all learners from different cultures may increase their desire to participate in the discussions. This issue is explored in further detail in the Recommendations Chapter, Section 6.2.

It could be deduced from these participant types that many participants valued interaction in the MOOCs. Thus, Zhong et al. (2016, p.959) argue that it is critical to construct learning communities in MOOCs that increase interactions among learners. However, making the interaction optional might be a better way of running MOOCs and learners might interact only when it is convenient for them. In addition, the employment of interaction optional could lessen the threat of learners dropping out of the course when they become confused as a result of an intellectual collision, as experienced by Waleed.

## 5.6 Summary

In this chapter, I presented the findings of Saudi perceptions of MOOCs and their implications for culture. Being a social constructivist researcher from the same country as this study helped me to understand and interpret participants' perceptions of MOOCs. In addition, it enabled me to gain a wider insight about how to implement MOOCs that could help improve individuals' cultures in Saudi Arabia and this aspect is discussed in further detail in the Recommendation Chapter.

Generally, the participants in this study provided feedback about their perceptions of MOOCs and their impacts on their culture. Regarding the impact of MOOCs on participants' lives, some participants showed that they used these courses as an educational source for continuous and lifelong learning in fields of interest or to improve their social, academic, or vocational lives. However, other participants also used MOOCs as a kind of edutainment tool, especially while they were busy in driving or doing housework. This meant their learning was less serious than the previous group because they used MOOCs like they used radio or TV. Therefore, participants' perceptions about the impact of MOOCs on their lives varied according to their own different purposes and their needs from these courses. This shows that MOOCs could contribute to participants' cultures on various levels and aspects. It is also important to note that the benefits that MOOCs gave participants in my study depended on their previous background and knowledge and the level of the course content. This means that the benefits gained when participants joined MOOCs in terms of raising their awareness of particular topics were different from the benefits for participants who specialised in a course field. As a result, although the level of current MOOCs satisfied the needs of many participants, there were also other participants who expressed a need for more specialised MOOCs with higher levels of sophistication.



Interestingly, the developments in participants' cultures are distinguished from the conventional learning because the participants in MOOCs have different ages and educational backgrounds and some of them are experts in their fields. The diversity of participants tended to make the learning experiences more international than local. In this regard, the findings highlighted that Saudi participants and teachers were aware and understood that peoples in MOOCs are from different countries. This can be seen from the teacher, as explained earlier in this chapter, who attempted to moderate her colloquial language (Saudi accent) to help people – especially those from western Arabic countries – understand her speech. From the participants' side, the findings showed different opinions. Some participants who understood and accepted the differences enjoyed participating in discussions and some of them wrote information in many languages to accommodate the range of preferred languages of people in MOOC environments. Other participants were more conservative and thus were not comfortable engaging in discussions with other people because they had concerns about misunderstandings or the offence that could be taken due to cultural differences.

Furthermore, the findings of this research revealed that participants' previous cultures, particularly in online learning, affected their perceptions about the organisation and design of the course. In this regard, some participants were much more ambitious with regards to the technology used in MOOCs as they wanted the design of materials to be more exciting, interactive, and engaging. They provided advanced suggestions about what they wanted MOOCs to contain. Other participants were more traditional learners who wanted the content of the course to be similar to a traditional lecture. For example, they liked to have one section of video in each lecture with a length of about 45 minutes, without paying any consideration to the interactivity of the materials. From participants' perceptions, it can be said that MOOC spaces need to be sufficiently structured to look after those who need structured and routine learning, but also be engaging and modern enough to keep the attention of those who want and

expect modern technologies to be included in online learning in Saudi Arabia in order to facilitate changes in the county and attract more people to contribute.

In conclusion, I would say that the relationship between Saudi cultures and learning via MOOCs could be represented as a kind of pushing and pulling dynamic and movement process. There is diversity within Saudi culture and this affects perceptions of learning via MOOCs, which reflects Gregory's (1997) theory, explained in Chapter One, Section 1.4.1, that individuals construct their perceptions based on prior knowledge and expectations. This theory recognises both top-down and bottom-up theories. In some areas of my findings, the bottom-up theory was more prominent. For example, when the participants explained the characteristics of MOOCs that motivate them to join these courses, their interpretations were direct and very similar to each other. In this regard, all my participants valued that MOOCs are free, open, and flexible courses produced by experts. Nevertheless, in another area of my findings, the top-down theory was more prominent. for example, the participants' perceptions regarding the design of MOOCs were more closely related to their past experiences with online learning, wherein there are many differences. In this regard, they tended to compare the design of MOOCs with that of other online courses and provide suggestions based on their previous experiences. This shows that my participants' perceptions reflected both bottom-up and top-down theories, emphasising that there is no one absolute reality of using MOOCs in Saudi Arabia; rather, there are multiple views and interpretations with similarities and differences that explain the reality of MOOCs in Saudi Arabia, all of which should be considered.

At the same time, the impacts of MOOCs on Saudi culture are various and may differ according to their purposes and the experiences gained from learning. According to participants' perceptions in this study, MOOCs generally change their cultures. However, although there are some similarities, these changes are not the same for every individual. The changes to Saudi participants' cultures after completing MOOCs confirms Herskovit's (1945) and Street's

(1993) arguments, explained in Chapter One, Section 1.4.2, that individuals recreate their own culture from the new experiences and ideas that they acquire throughout their lives. The changes participants perceived in Saudi cultures after taking MOOCs confirm the argument described in Section 1.4.2, where culture is seen less as a static container or unchanging monolith and more as an open structure that changes constantly and is different for different people. In the context of Saudi Arabia, any individual person may see his or her own culture differently to that of others, reflecting McSweeney's (2013) argument that to understand the culture of individuals in a certain country the ecological mono-deterministic fallacy is a more reliable identification than the ecological fallacy. National culture (the Saudi culture) is identified as an independent ecological variable in determining the cultures of people in Saudi Arabia. Thus, the changes taking place through MOOCs varied according to the different individuals' perspectives. Nevertheless, there is a sense of culture in which individuals feel they are part of a social group as they have one collective culture with customs, rituals, and behaviours that are to a certain extent predictable. In the MOOC, there was evidence of the participants' appreciation of content related to Saudi cultures. For example, in response to participants' requests, one of the MOOC teachers in this study provided examples from real-life participants that were related to their Saudi Islamic culture. In addition, my findings highlight the importance of ensuring that discussions consider Islamic principles and respect individuals' thoughts in order to increase participants' comfort with MOOCs and encourage further participation.

In brief, we could say that the previous culture of a Saudi participant affects his or her expectations about the contents and the design of MOOC, while learning in a MOOC could have implications that change the participant's relationship with and perceptions of his/her culture.

## **CHAPTER 6: Conclusions and Recommendations**

This study aimed to explore Saudi participants' perceptions of MOOCs and their implications for their culture. The previous chapter presented the findings and interpretations of this study. The main purpose of this chapter is to summarise the key conclusions in relation to the research questions. This chapter also presents the implications of the findings, including the limitations of this research and its original contribution to knowledge. Finally, this chapter provides recommendations for future research along with my personal reflection on this project as a whole.

### **6.1. Conclusions**

This section presents a summary of the study results with recommendations. Overall, this study shows that the characteristics of MOOCs and their new method of learning can play a significant role in improving the culture of Saudi individuals, particularly in aspects related to their social, academic, and vocational lives. The convenience of learning methods and the social learning environment provide considerable opportunities for Saudi people to adjust to recent changes in Saudi Arabia and facilitate their contribution to the country's Vision 2030. However, although there were some similarities, the participants' perceptions in this study about using MOOCs varied; this shows that Saudi perceptions about the cultural implications of MOOCs are not monolithic and their perceptions reflected Gregory's (1997) theory, which acknowledges both bottom-up and top-down theories.

Due to the rapid changes in terms of politics and government rules in Saudi Arabia, especially in the last two years, people's thinking has changed and continues to change, including their preferences for a teaching approach. However, these changes are not identical for all people in Saudi society. For example, although there are Saudi people who accept the differences

between people in their thinking and cultures, other people are still conservative. Interestingly, some participants in this study had perceptions that reflected their wide experiences with using technologies and online learning. In some cases, these participants mentioned examples and online websites. In contrast, other participants were happy with the current design of MOOCs and their suggestions showed that they were sticking with the traditional course design and wanted the materials to reflect traditional courses.

The following sections present the research questions in a similar order to the Findings and Discussion Chapter, followed by conclusions.

### **6.1.1 Research Question 1**

**What are Saudi participants perceptions of MOOCs in terms of their impact on their lives?**

MOOCs are characterised by the provision of high-quality courses taught by trusted experts in their fields and being free and flexible. These qualities encourage people of different traditions and obligations, including people with special needs, to take and benefit from these courses. According to my participants, MOOCs are seen as a feasible means of lifelong learning through which to expand their knowledge prospects in their areas of interest. Generally, participants valued having fun while learning through MOOCs, highlighting the opportunity of edutainment in MOOCs.

This research is distinct from other studies as according to the demographics of my participants there were more than twice as many female Saudi participants than males. Certainly, the flexibility of MOOCs puts this kind of learning in high demand, especially for Saudi women, as it enables them to attain a work–life balance by learning while maintaining their own family duties without the need to use transportation. Learning via MOOCs might facilitate

reconciliation between learning and participants' job duties and responsibilities. Interestingly, the fact that some MOOCs were sponsored by reputable universities led some participants to satisfy their curiosity and discover the courses' contents as well as challenge themselves to see their achievement in these courses, especially as they believed that these courses were similar to the courses taught within the universities themselves. Nevertheless, as the participants were mainly concerned about the usefulness of the MOOCs' content to their academic, personal, and professional lives, providing a certificate of accomplishment increases participants' motivation to complete and succeed in such courses.

For Saudi people, the scope of this study, several purposes and implications of using MOOCs are highlighted. Several studies have provided similar results regarding the effectiveness of MOOCs in participants' lives, such as for professional and self-development and gaining information about their interests or their academic fields. Participants' responses showed high concern about professional development for their current or future jobs, with limited focus on gaining information about their academic studies. Their responses highlight the efficiency of using MOOCs in terms of professional improvement. This includes obtaining the skills missing from their previous academic studies that are needed for their current or future jobs, using the MOOCs' materials to design and prepare for their own face-to-face courses, and updating their knowledge and information to advance in their careers. Nevertheless, MOOCs have been proven to facilitate university students' understanding of their academic subjects, help them in conducting academic research, and assist them in their fields of training. This should be put into practice by providing MOOCs that have the same content as university courses in various academic fields.

Additionally, some MOOCs have influenced participants' lives by helping them find solutions to everyday problems. For example, some participants found that MOOCs helped them improve their self-management skills, increasing their satisfaction and life prospects.

Generally, this study shows that taking MOOCs develops self-regulated skills such as self-learning, self-discipline, and time management. Participants in this study expressed the effectiveness of MOOCs in raising their confidence and awareness about particular subjects, accepting variation between peoples, and improving their thinking. Moreover, the participants' responses revealed that MOOCs can be used as an alternative to Wikipedia or a search engine to access information of interest.

However, this research also provides insights into some of the challenges faced by participants which may decrease their motivation to learn or negatively affect their persistence in learning via MOOCs. The challenges that my findings outline include the modest design of MOOCs, which is not attractive to participants; excessive duration; content that is too difficult or does not meet the participants' expectations; postponement of lectures; and the difficulties caused by learning in MOOCs which are only available in English. Furthermore, other challenges that affect participants' persistence in MOOCs mentioned in the literature include a lack of teacher interaction and support, bad experiences (such as poor quality content or inappropriate behaviour on forums), struggling with the skills needed for online courses (such as self-discipline and time management), joining late after the course starts, and technical difficulties. All of these challenges need to be considered when designing and implementing MOOCs to increase the level of engagement and persistence amongst participants.

It is important, however, to emphasise that investigating the relevance of MOOCs to participants should involve examining the implications of MOOCs in participants' personal, educational and vocational lives rather than simply thinking solely of success rates, which only reflect the number of learners who complete the course and pass the exam successfully. Failing to think beyond success rates means failing to consider how students apply the information and experiences they have gained to practical situations outside of class; because MOOCs are

informal courses and do not provide credit, each participant selects the sections that he or she feels will be most beneficial.

### **6.1.2 Research Question 2**

#### **What are Saudi participants' perceptions of the pedagogy and learning design of MOOCs?**

The pedagogy of MOOCs involves the teaching and learning process, the organisation of learning activities, and their educational benefits. According to the literature and my participants' responses, the flexibility of learning in MOOCs is a main feature that increases participants' motivation and concentration. MOOCs are a form of self-paced learning and therefore they allow learners to learn at their convenience, return to the materials at any time, and listen to or read them more than once, which can facilitate their understanding. Generally, MOOCs have many features such as simplified information, materials that have attractive designs and are available in different forms, such as videos and PDFs, and opportunities for learners to interact with each other and with the teachers. In addition, learners in this study had a certain level of control over the direction and nature of the learning because they were able to select their preferences from the learning materials and decide which course topics to learn and how much they needed from the course according to their requirements and availability. In some ways, this can be seen as having some control over the direction of the curriculum, which makes it more learner-centred. Because of these features, the participants in my study preferred MOOCs over traditional courses. They believed the design of MOOCs, which includes videos and participants' comments, attracts learners' attention and prevents the boredom associated with taking traditional courses.



According to participants' perceptions, the current design of MOOCs needs improvement in order to be more engaging and interactive via advanced technologies. Teachers are varied in the amount of interaction and support they provide in MOOCs, and teacher presence is one of the main challenges in MOOCs. Due to the difficulty in providing personal and effective feedback to a large number of learners in MOOCs, as well as the challenges in terms of intimate and immediate communication, some participants found the communication with the teacher in MOOCs harder than that in face-to-face courses. Further research is needed to address this issue and understand how to increase the presence of teachers and learners in MOOC communities.

Although the videos were the most used tools in this study, many participants showed their interest in improving the design of videos to make them more attractive and enhance their attention. The technologies used to design and produce the videos fell below participants' expectations. Providing videos in the form of screencasts of PowerPoint presentations is not as effective as using the same method in a traditional classroom because an online teacher is unable to see how students are engaging with the content or provide immediate feedback. This research asserts the importance of designing videos in accordance with online design principles. It also highlights many points that should be considered when designing MOOC videos to increase participants' engagement and focus, including the importance of using a multimedia approach such as using signposting to help learners follow-up, using pictures and images to support the presented information, helping students to make meaning from their learning by providing information relevant to their lives, and keeping the video short (not exceeding 15 minutes) to increase the level of attention and focus. However, the production and design of videos is the most time-consuming element of the development of MOOCs and this highlights the need to have consultants in the area of educational technology and computer design to help teachers produce and design satisfactory materials in such courses.

Furthermore, this research indicates that the videos and their associated reading files must be alternative to each other in learning so that each is sufficient for learning and testing. Any other additional information should be clearly indicated as extra, intended for providing different resources to satisfy the needs of the different levels of participants.

This study demonstrates that learners were allowed to pursue areas of their own interest by suggesting their preferences regarding the type of tasks they would like to complete each week and the number of exams the course should entail. Learners in this study clearly showed interest in having tasks that promote social learning through discussions with their peers focused on sharing new knowledge and personal experiences; they also expressed interest in exercises that rely on collaborative group work, especially when such tasks are designed in a manner that touches on their lives and enables the participants to benefit from their learning by applying it realistically. However, some participants in my study expressed their wishes to improve and manage these discussions efficiently, especially if they had high numbers of participations, to make them more constructive.

Moreover, assessment in MOOCs represents another challenge. Due to the large number of participants, the only type of exam in the platform of this study was computer-graded multiple-choice questions. This type of exam was preferred by many participants in my study for many reasons: multiple-choice questions can cover all the topics in the course and vary in difficulty; the questions are easy to answer and do not require much time and effort; they allow for objective, consistent, and reliable marking since personal judgment is not needed; and they provide immediate feedback. However, multiple-choice questions are not suitable for all MOOCs, and students can guess the answers without reading or watching the materials. In addition, reliable tests need to assess different skills. For these reasons, and to satisfy the needs of participants who want exams that require writing expression, I advocate the use of peer-assessment in the platform of this study.

Regarding the learning theories that have influenced the design of MOOCs, the findings of this study and the literature review have demonstrated that the components of MOOC teaching (which include multiple weeks in which each has: multiple short videos, written documents, discussions, tasks, and exams) are similar. However, the proportions and the aims of these components, which can reveal the learning theories that the courses have been designed around, differ. In addition, each platform is oriented around course activities and their general aims, which influences the course pedagogies. For example, it is evident from the literature that Coursera focuses more on providing lectures in multiple videos, which means its course pedagogy is closer to an objective approach in nature. In contrast, FutureLearn provides more discussions and exercises which mean the courses are more closely related to the social-constructivist approach. The videos and written files of MOOCs on the platform of this study have been more reliant on transmitting course content, and many of them were designed like university courses. I found that the design and the aims of these teaching resources rely more on the behaviourist and objectivist approaches. There were also discussions and tasks that helped learners to represent their knowledge in different situations and promote interaction with their peers. These activities provide evidence of a form of social constructivist learning. Due to the large number of learners in MOOCs who have different cultures and educational backgrounds, it might be more efficient and easier to design the basic materials of the course based on an objectivist method of teaching that relies on transmission of information. This would serve the needs of participants with different intentions and educational levels. However, it is also important to design social activities that promote shared experiences to provide participants with the opportunity to benefit from people with a different level of expertise.

Most importantly, to conclude this section, it is important to emphasise that determining the course pedagogy requires consideration of the target group, the design, and the organisation of course activities and their aims. However, due to the openness of MOOCs, learners are diverse

in terms of their age, educational background, and culture. In addition, these courses differ in their design and structure. These factors, besides the large number of learners in each course, make the pedagogy of MOOCs different from that of other online models of learning. Therefore, when analysing and evaluating MOOC pedagogy, one should treat each course individually and consider course structure, the organisation of activities, course aims and expectations, the contributions and the roles of both teachers and learners, and finally evaluation procedures.

### **6.1.3 Research Question 3**

#### **What are the Saudi participants' perceptions of the social MOOC environment?**

Participants in this study asserted that each MOOC offers spaces for communication and discussion to create learning communities. This study indicates that MOOC communities are distinct from other online learning environments: MOOC participants differ in terms of their countries, cultures, backgrounds, ages, and levels of expertise in the field of the course. In addition, participants involvement in these communities comes purely from personal intention, while the majority of teachers provide materials and their contact information voluntarily. Furthermore, participants in MOOC communities collaborate and help each other by creating discussions that enable them to understand the materials effectively and share their experiences. The support and guidance that participants gain from their peers in MOOCs can compensate for the limited attention they receive from teachers. This distinctive nature shows that some participants are actively seeking to contribute to and benefit from these communities, and communication between participants may even extend outside the platform after a course ends. In this study, these communities' positive impact was not limited to acquiring information and experiences that sometimes exceeded that provided by course materials

because participants' retention and motivation to learn also increased. Therefore, it is important to learn more about how to best activate communities within MOOCs by ensuring that discussions are suitable for the diversity of learners, encouraging learners to interact and work with one another fruitfully, and facilitating the possibility of communication outside the course. Indeed, there is no defined optimal method of implementing an effective MOOC with its associated virtual community; therefore, encouraging participants' contributions becomes fundamental (Núñez et al., 2014, p.148). In this case, Núñez et al. (2014, p.148) indicate that:

The participants should be stimulated to provide own content and enhancements to existing content. This can be accomplished by introducing the concept of Fisher on defining culture of participation of three parts that must be taken into account when designing the community associated with a MOOC: meta-design: where collaborative design is enabled by the infrastructure; social creativity: that shall support collaboration among learners; different levels of participation: those levels should allow different degrees of engagement with the system and its content.

To increase the likelihood of these communities' continuity and to satisfy the needs of participants, I suggest providing tools for creating groups with names that reflect their purposes. For example, if a group aims to discuss a particular subject, its name should have the name of this subject, while if the group aims to read and analyse a particular book, its name should be the name of that book. Of course, creating groups should require sending a request to the platform and obtaining permission in order to organise the process and minimise any repetition that may occur. These learning groups need to exist in dependent pages on the platform to ensure people both notice and join them. In this case, the platform would include courses and learning groups.

However, participants' identities in MOOC communities cannot be verified due to their virtual nature and informality. Nevertheless, this study highlights that the rules that participants should follow are missing in the platform of this study which resulted in uncomfortable discussions for some people. These issues, along with the massive number of unorganised posts, leads to reluctance from some people to participate in or even view the discussions. Certainly,

managing the massive number of comments in order to reduce repeated comments and highlight valuable posts, as well as categorising posts by topic, may be helpful and facilitate navigation. Furthermore, it is highly recommended to develop terms and conditions which reflect the Islamic culture of Saudi individuals for participants to follow. This issue is discussed in further detail in the following section.

## **6.2. Implications and Recommendations**

This research shows wide usage of MOOCs by Saudi participants for different purposes, including professional and self-development, access to information of interest, and development in academic specialisations. After reading a wealth of literature on MOOCs and analysing my participants' responses, which highlighted their passion for MOOCs and the benefits they can provide, I hope that many courses are designed to develop Saudi people in different fields and help them to cope with the rapid increase of information and technology in the digital era alongside the recent changes in Saudi Arabia. For example, I found that a MOOC could contribute to relieving pressure on women's driving schools. Currently, a significant number of women attend classes they must pass before moving on to practical lessons. Thus, waiting lists include large numbers, which could be solved by designing a MOOC for this purpose so participants are only required to take the exam face-to-face. This suggestion can also help women who live in villages or small towns where there are no driving schools by enabling them to learn online in their homes; they would then only have to complete the one-day exam at the driving schools in the main cities.

In addition, there is an urgent need to design MOOCs that touch Saudi life, such as those that discuss and raise participants' awareness about social issues and common diseases in Saudi Arabia, especially as many participants use MOOCs as an alternative to radio or TV.

Interestingly, this research shows Saudi participants' wide interest in using MOOCs for professional development, which makes it necessary to think about offering more MOOCs that help participants acquire the skills and knowledge that are essential for each specific job. These MOOCs could fill the gap between learning outcomes and the needs of the labour market, which employers often complain about, and it could enable participants in MOOCs to share their knowledge and experiences, which would provide useful assistance to both graduates and new employees. Of course, there are some important skills for all jobs, such as learning English, using advanced programmes, digital marketing, and handling beneficiaries and work pressures. In addition, providing courses about how to plan and improve their own businesses and projects would have an extremely positive impact on a large percentage of Saudi people. It is necessary to run and improve MOOCs to be consistent with Saudi Arabia's Vision 2030, which includes the aim "Learning for working" (MOFA, 2017, para. 15):

We will continue investing in education and training so that our young men and women are equipped for the jobs of the future. We want Saudi children, wherever they live, to enjoy higher quality, multi-faceted education. We will invest particularly in developing early childhood education, refining our national curriculum and training our teachers and educational leaders.

We will also redouble efforts to ensure that the outcomes of our education system are in line with market needs. We have launched the National Labor Gateway (TAQAT), and we plan to establish sector councils that will precisely determine the skills and knowledge required by each socio-economic sector. We will also expand vocational training in order to drive forward economic development. Our scholarship opportunities will be steered towards prestigious international universities and be awarded in the fields that serve our national priorities. We will also focus on innovation in advanced technologies and entrepreneurship.

Providing courses which aim to train Saudi job seekers and employees online will contribute to realising Saudi Arabia's Vision 2030. Recently, the Saudi government has enacted laws that restrict working in some sectors to Saudi nationals, for instance in the telecommunications and retail sectors, to provide more job opportunities for the country's citizens. Therefore, investing in MOOCs that train employees and job seekers in the required skills of different jobs by making partnerships with not only internal Saudi universities and the Technical and Vocational

Training Corporation but also with the high-reputation universities that have Saudi scholarship students would have positive implications. For example, these training programmes will decrease the time needed to train people for new jobs and will also help new employees to adjust to and be professional in their new jobs more easily. If these partnerships happen, the decision-makers of MOOC platforms will need to develop processes to translate foreign language materials into Arabic. I expect that this investment will facilitate benefits from foreign university courses and training programmes for more Saudi citizens. In addition, providing courses online will reduce the burden of training teachers and employees outside Saudi Arabia, which is an annual expense for universities including King Saud University and other educational institutions.

Nevertheless, providing MOOCs that are officially sponsored by universities and learning institutes in Saudi Arabia may create a spirit of competition among partners as these courses will reflect their image to the public. This will in turn raise the quality of these courses and help to provide different levels of courses to satisfy participants with different levels of expertise. In addition, establishing partnerships with Saudi universities would contribute in democratising education by providing university courses for those who are living in places in Saudi Arabia without universities that teach their desired fields. In addition, this would help provide education for people from other Arab countries such as Yemen and Syria, where many people have suffered as a consequence of crises and wars, especially as the Saudi government has devoted aid to people in these countries. I hope that this research will encourage major learning institutes and universities in Saudi Arabia to take further steps to develop partnerships with MOOC platforms.

Generally, MOOCs need to serve more people, especially those in rural areas, students, and those with disabilities. To do so, it is important to consider many points to motivate more people to take MOOCs, including: improving the infrastructure of the Internet and ensuring



access to the Internet from everywhere with technical support; providing a variety of courses that can accommodate participants' different needs and levels; and thinking about the credentials of MOOC certificates because this could motivate more educational attainment through these courses, especially when the certificates have tangible benefits for job promotion or even academic biography, which could increase the level of persistence in the courses.

Generally speaking, the flexibility of leaning in Saudi Arabia is very helpful in many cases for Saudi people; this flexibility has been made available in Saudi Arabia with the establishment of the Saudi Electronic University and distance learning at King Faisal University in order to facilitate learning for many people. This issue led me to think about the possible effectiveness of applying the same pedagogy used by Coursera, which provides its university partners courses in the form of flipped classroom or blended learning (Stacey, 2014, p.114), when the platform of this study establishes partnerships with Saudi universities. In this regard, Alebaikan (2012) conducted a study about the future of blended learning in Saudi Arabia and she found that female Saudi university students perceive blended learning as helping them continue their Higher Education. In addition, Alebaikan (2012) found the most common blended learning tool used in Saudi universities is called Web 1.0 (a read-only environment) where the information is delivered to students; Web 2.0 tools (a read and write environment) such as blogs, Twitter, Facebook, YouTube, and Flickr facilitate social activities and collaboration in learning by creating and editing information by students but have not yet been used in blended learning in Saudi Arabia. Thus, as demonstrated by one of the blended learning courses at San Jose State University in the United States, this is an issue that could be solved by MOOCs if they become part of blended learning courses in Saudi Arabia (Kolowich 2013).

Providing university courses in MOOCs can have advantages for both university students and for other MOOC participants. One of these advantages is providing the more specialised and advanced courses hoped for by the participants in this study. Another is providing updated

courses that help employees keep up to date with required skills and information, especially in fields that change rapidly such as programming. University students in MOOCs might be more engaged with and excited about dynamic materials like videos. In addition, conducting peer-assessments and engaging in discussions within MOOCs promotes participants' collaboration in sharing information and constructing knowledge, which can make their experience more enriching. Finally, the number of people who would benefit from university courses will be greater. I also expect that university students will have more motivation to learn via MOOCs in the future after graduation. However, the success of the experiment in one American university does not necessarily guarantee success in Saudi universities due to the uniqueness of Saudi culture, including the Saudi educational system. Therefore, I suggest conducting more studies to explore this issue and its implications.

Furthermore, this research has proven that MOOCs are used by trainers or teachers to help them in designing and preparing their own face-to-face courses or training programmes. The issue here is that making MOOCs available seems to be insufficient, especially as participants are often from developing countries and some want to watch the materials, download them, then repurpose them for their own audience in their own contexts. For example, an educator in Sakakah, Saudi Arabia could attend a MOOC in Coursera and then reuse these materials to teach people in Sakakah or create a new MOOC that includes some of this material with extra content specifically for a group of Saudis. Generally, it is always important to credit the source of the original work or get permission from the copyright holder when we use their copyrighted work and acknowledgment of the original source should exist. Therefore, when participants use a portion of or the entire content of a MOOC, it is important to obtain consent from their owners. However, sometimes gaining consent takes a long time and it can be a complicated procedure, especially when the owner of the MOOC consults several people. To simplify the possibility of reusing MOOC content, and in order to maximise the potential of reusing,

recreating, and redistributing MOOC materials, it is suggested that a license that clarifies the permissible limits for individual use be included. When a course mainly has a license that explains the conditions of reuse or modification, consent can be gained by following these conditions.

The most common licenses used with open-access materials are Creative Commons licenses. Creative Commons was established to balance the reality of open access to Internet materials and the reality of intellectual property law (Oubari, 2014): “Its proponents argue that this gives users the greatest possible degree of flexibility, allowing (among other things) businesses to use published research and, by doing so, potentially encourage innovation and economic growth” (Collins et al., 2013, p.11). Creative Commons (CC) is an international not-for-profit organisation that aims to enable authors to clarify both the rights they have retained for themselves when they publish content and the rights they waive by using simple symbols (Oubari, 2014). There are six Creative Commons licenses that the author can choose, and all of them require attribution: “this is signified with the ‘BY’ in each licence name” (Collins et al., 2013, p.8). Although these licenses are not an alternative to copyright, they sustain the copyright and endure for the same length of time (Collins et al., 2013, p.10). Creative Commons licences allow the creator of content to specify the conditions that state exactly how people may use the content as well as what is and is not allowed “while ensuring that you are credited for your work” (Collins et al., 2013, p.10). For example, the most permissive Creative Commons license is CC BY, which permits “sharing, commercial reuse and modification as long as the original author is credited and the fact that changes were made to the original work is made clear” (Collins et al., 2013, p.11). Indeed, many international institutions and websites such as Khan Academy, and MIT OpenCourseWare have already been involved in the OER project, which is licensed by Creative Commons, to provide resources that students may need

in all fields and disciplines (Oubari, 2014). Using licenses in MOOCs would facilitate cascading the learning down while sustaining the individual teacher's copyright.

Although this study indicates that learning through MOOCs provides better methods for Saudi people, particularly those who have jobs and are mothers, the findings highlight some problems faced by participants that negatively affected their motivation or limited their use of MOOC tools. Therefore, based on many studies in the literature as well as my own findings, several recommendations can be highlighted to increase participants' engagement in MOOCs and improve the usefulness of MOOCs to participants. These include designing a clear syllabus and clarifying the objectives and expected outcomes of the course before it starts to increase participants' satisfaction; providing content which is valuable and relevant to participants' lives; providing consistent support and feedback to learners that helps them to recognise their progress; ensuring the length of a MOOC is below seven weeks as, according to the literature, this could help learners to balance between their work and studies; designing activities that increase the interactions between teachers and learners and create a social learning community; and advertising the course through social media and inviting experts in the field of the course to join, thus increasing the opportunity for valuable discussions and providing support to the teacher when they interact and answer learners' questions. In addition, providing sufficient additional recourses for each MOOC that meet the needs of different participants who want to expand their knowledge after the MOOC is important to increase the course's efficiency.

Due to the nature of MOOCs, the presence of teachers still represents a challenge that needs to be met, especially as my findings and the literature confirm the significance of teacher support and presence in increasing learners' engagement. Most importantly, teachers in MOOCs need assistants to help them manage discussions, provide feedback for learners' questions, and design learning strategies capable of supporting effective collaborative activities to enable participants to be actively engaged in the course. It is suggested that providing live lectures

with the teacher after some weeks and saving and posting live lectures on the course page to maintain the flexibility of those who cannot attend in real time can increase the effective interaction between teachers and learners and increase learners' engagement.

Regarding MOOC pedagogy, both objectivist and social-constructivist approaches are important and effective for designing learning experiences; additionally, balancing them is important when considering learners' different needs and backgrounds in order to maximise the benefits that MOOCs can offer. The materials and activities included in a MOOC should help learners to obtain greater experiences. For this reason, I suggest designing each MOOC based on its field and aims and at the same time attempting to benefit from having teachers who can provide essential and basic learning materials besides building strategies to facilitate exposure to a large number of people, many of them experts.

Stacey (2014, p.115) recommends that the pedagogy of MOOCs should "leverage massive participation" by enabling all learners to add to or improve the overall course. Stacey (2014, p.115) also asserts that "socio-constructivist and connectivist learning theories acknowledge and embrace the social nature of learning. Learning is not just acquiring a body of knowledge and skills. Learning happens through relationships. The best online pedagogies are those that use the open web and relationships to mine veins of knowledge, expertise, and connections between students, between students and the instructor, and between students and others on the open web". In addition to the social learning pedagogy explained above, Stacey (2014, p.115) adds another recommendation for MOOCs: using peer-to-peer pedagogies to improve learning outcomes. This can be achieved by developing strategies for effective peer-to-peer interaction to help learners improve their learning and understanding. In addition, peer-assessment, which was praised by many participants in this study, can be used for this purpose and could be more effective than multiple-choice exams in many fields. In fact, peer-assessment can have many advantages, including providing learners with the opportunity to be active by involving them

in the evaluation process, enhancing the learners' skills in evaluation and correction, improving learners' confidence and esteem, and enabling learners to view and benefit from their peers' ideas and answers.

However, it is important when using peer-assessment to ensure that the guidelines and rubrics are clear for all learners, which can be done by discussing these issues before learners start the evaluation process. In addition, there is a need for further research to investigate the reliability of peer-assessment and how to improve it, especially as researchers (such as Krause, 2013) have claimed that participants sometimes do not care about peer-assessment and do not provide serious feedback since their work will not be checked by the teacher.

Although the exam has been proven to be the least used activity in several studies, including this research, my participants revealed that obtaining certificates after completion of the test gave them an incentive and a sense of accomplishment and therefore increased their motivation to learn. Therefore, providing exams in MOOCs is considered to be useful for increasing motivation and promoting feelings of satisfaction. Significantly, exam design should consider many factors: selecting the most appropriate type of exam according to each course; designing questions that focus on skills of analysing and evaluation besides information retrieval; identifying flexible deadlines for submission of the exam; providing effective and immediate feedback as often as possible; and the required time for completed the exam should not be as long as in university courses. In addition, it is more helpful to provide multiple exams than just one because this increases the participants' retention of information and enables mastery learning (as explained in Chapter Five).

Although providing social activities (such as discussions in forums) and peer-assessment in MOOCs can reinforce participants' learning, it is important to make these activities optional. This is because, according to both the literature and my findings, some participants use MOOCs to discover information in their areas of interest; these participants normally use MOOCs as an

alternative to Wikipedia, for example, without any intention of engaging in discussions or taking exams. Thus, making the exams and discussions optional would reduce the likelihood of these participants withdrawing from the course. In addition, my research indicates that some learners were not able to partake in these social activities or peer-assessment due to a lack of time or interest.

In addition, the findings showed a need for improvement in the design and production of learning activities to make them more advanced and attractive to learners, especially because teachers in MOOCs cannot see how learners engage with their explanations. With regards to the teachers of MOOCs, it is difficult for them to think about the best strategies that can be used for teaching the course effectively due to the additional burdens they face whilst designing and introducing the course. This suggests that having consultants and designers in the MOOC platform who are specialists in the fields of computer design and educational technology is important as they would be able to help teachers design and create presentations, course content, and different assessment methods.

Based on reviewing many studies and my findings, the design of videos on the platform of this study needs to be improved to make the content more effective, engaging, and attractive, especially as videos are the most-used tools in MOOCs. Recommendations for such improvements include keeping the video brief (between six and 15 minutes); keeping the video targeted on learning goals (concise and focused to avoid distraction); using both audio and visual materials but making them complementary to each other by considering Mayer and Moreno's (2003) cognitive theory of multimedia learning (as explained in Chapter Five), which emphasises the importance of using both visual and verbal information to foster the organisation and integration of new information in the participants' memory; highlighting important ideas or words by using different colours, SmartArt style, or animation; using a conversational style by, for example, asking the audience to think about something relevant;

using an avatar if the teacher prefers not to use a personal image in the videos to enhance the teacher's presence and increase interactivity; and providing associated assignments or tasks after the video has finished to encourage active learning.

Furthermore, the social environment should be made more convenient for all participants through the development of participation terms and conditions. The presence of individuals from different cultures in an online educational environment requires identifying some standards, principles, and rules that participants should adhere to in order to preserve their rights and ensure respect for all. Ethical policies need to focus on developing a monitoring system that follows up on the participants' comments and takes necessary actions against anyone who offends others through racism or contemptuous language. Participants in this study originated from different cultures; thus, they may have misunderstood some comments or encountered moral issues which could have negatively affected their enthusiasm or even discouraged them from participating. Although some platforms such as Coursera and FutureLearn have developed terms and conditions of use, the policies mentioned in the platform in this study are inadequate. The platform's policy primarily focused on the privacy of personal information provided by participants when they registered and failed to cover the rules that users should follow for proper participation. Some participants in this study experienced inappropriate discussions or comments in MOOCs that placed them in an uncomfortable social environment. This issue highlights the need for precise guidelines that could help participants raise awareness regarding the terms of participation and prevent future misunderstandings.

Participation terms and conditions should be developed to reflect Saudi Arabia's Islamic culture and direct learners about behaviour that is acceptable in a MOOC environment. The terms and conditions of participation according to Islamic culture should confirm that the difference among humans is instinct; thus, the rules should protect participants from racism or



abuse. Holland (2014, p.2), who has gathered experience in several MOOCs, identifies many etiquette rules that could guide the participants. These rules include being civil, which is explained as followed:

Treat each other with consideration, courtesy, politeness and respect. Being civil is not the same as agreeing with those whom you secretly disagree with in order to be polite. It means being able to disagree, and yet maintain the tone and language of polite dialogue. Between people, civility both allows and invites a response. It allows people to build a dialogue that is informative and instructive to participants and others who may read it. It creates an exposition of a subject that, through the medium of the MOOC, reaches far beyond the initial exchange. (Holland, 2014, p.2)

Other rules that Holland (2014, p.2) added include being genuine, avoiding aliases and anonymity, and preventing fraud. I believe it is necessary to prevent the impersonation of famous figures to ensure participants are not misled. I found being civil reflects Islamic culture, where learning comes through dialogue with the prophet Muhammad. The Qur'an also clarifies Islamic rules by providing models and examples that allow the reader to meditate on the subject completely without insult or ridicule. Therefore, dialogue is especially important for learning and progress in life. Thus, it is imperative to encourage participants to post constructive discussion contributions and share relevant knowledge with others while maintaining a respectful voice. In addition, the terms must include some rules about acceptable personal photos. For example, it is appropriate in Islamic culture to use virtuous photos that present the individual in a respectable manner. Nevertheless, the terms and conditions of participation should be emphasised such that participation is the responsibility of the individual themselves and they will only express their own opinions. Although the platform also needs to play a significant role in monitoring participants' comments, I suggest giving participants the responsibility to report abusive posts, similar to the scenario on Twitter.

Another issue that needs to be considered according to many MOOC participants is managing the posts in discussion forums to facilitate reading them and benefitting from the valuable ones. In this regard, I recommend using colours to differentiate the types of posts. For example,

before the participant posts in the forum, he or she should identify the type of post (question, answer, general comment, thanks, etc.) using the particular colour associated with that type. Thus, if the post is used to thank the teacher, for example, and if the platform has decided to make the colour of thanks red, then participants who are interested in reading answers to a particular question would ignore red posts. This could minimise the time spent reading posts and could encourage participants to engage in discussion forums.

In conclusion, this research on MOOCs confirms that they are complicated in nature due to their differences in goals, design, pedagogy, and learning activities. Furthermore, the type of learners and their presence differ from one course to another. These major differences between MOOC courses, even those on the same platform, lead to difficulties in making comparisons and generalising any research findings in this area. This research provides insights into the need to think about innovative learning theories that are more effective for the new approach of the MOOC learning model. Koseoglu and Koutropoulos (2016, p.5) confirm that “the rapid rate of change in educational technologies, online learning requires constant pedagogical improvements and innovative design thinking, which may obscure the validity of some of our suggestions”.

Generally, the findings of this research showed that using mixed methods, including obtaining detailed qualitative data, is particularly useful in understanding participants’ perceptions, including their expectations about learning via MOOCs. The interviewees in this project highlighted several factors that influence their motivation and their suggestions are highly likely help MOOC designers in improving all platforms, not just the platform of this study.

### **6.3. Original Contribution to Knowledge**

As mentioned in the previous chapters, the research that has been published in the area of MOOCs appears, understandably, to be relatively under-represented due to the novelty of this concept. Therefore, I hope this research adds to the literature on MOOCs, which has only blossomed in the last few years, especially since it was conducted using mixed methods and provides valuable suggestions from the participants. To the best of my knowledge, this research is the first to investigate the cultural implications of using MOOCs from participants' perceptions. It provides detailed explanations regarding the context of MOOCs, particularly in Saudi Arabia. It should help the designers of MOOCs to understand the efficiency of teaching and learning activities and improve their design by considering the learning theories and recommendations that could maximise MOOCs' potential. In addition, insights into the efficiency of applying a mixed theoretical approach that integrates both objectivism and social constructivism theories have been provided. Such a mixed approach theory has not yet been considered in the MOOC literature I reviewed. I found that this approach might be the most efficient in designing MOOCs due to the different types of learner that I discussed in the Findings Chapter as they have different preferences of methods and different backgrounds, including introductory, advanced, and expert. Designing MOOC activities based on the mixed approach could satisfy the various types of learner.

Moreover, I hope this research provides designers with insights into how best to activate and manage the online community to make it more comfortable for all learners. In addition, this research could be used as a base when thinking about studies that cover other aspects of MOOCs, such as the further research suggested in Section 6.5 below. As a consequence, there is an urgent need for further research investigating MOOCs in different contexts and platforms.

#### **6.4. Limitations and Challenges**

Although I have tried to select the best methods and samples to represent Saudi perceptions about MOOCs, my study has limitations. First of all, the majority of my study participants were young people (between 25 to 36 years old) who had Bachelor's degrees or were university students, although this characteristic is also present in the previous literature that I reviewed; this could have biased in my results as their perceptions may be affected by other experiences of online learning in their universities and thus may not represent the majority of Saudi people's perceptions. Furthermore, I conducted my study in one MOOC platform as this was the only platform that gave me permission to access the courses for the purpose of this study. Furthermore, most of the participants recruited in my study were participants in one of three courses that were in progress at the time of the study. This is because the platform sent the link for my survey and posted it in the announcement pages of these three courses as explained in the Methodology Chapter. However, for the interviews I attempted to choose those who had participated in the largest number of MOOCs and those had also participated in MOOCs in other platforms than the one used in this study.

In addition, participants in my study did not use all the tools provided by MOOCs; thus, their perceptions were limited only to the tools that they experienced. Moreover, I chose to observe one of the in-progress courses while collecting my data; it was taught by a Saudi female professor who used to teach a MOOC similar to her university course. My time was limited as I could only conduct my observations during the data collection timeframe.

Moreover, due to the new emergence of MOOCs in general and particularly in Saudi Arabia, to the best of my knowledge research that addresses participants' perceptions of MOOCs, especially in relation to pedagogy and social learning, is very scarce, and the majority of research on MOOCs is quantitative. Thus, the studies that were linked with my results in the

discussions are limited. Much of the research involving MOOCs that I utilised was not focused on teaching and learning.

Finally, conducting online research using mixed methods proved to be a challenge and this was a new experience for me. Analysing qualitative data and trying to link it with quantitative data to generate valuable themes took considerable and unexpected time and effort, especially because my data is in Arabic. In some cases, I found myself reanalysing certain parts and omitting some data from my results in order to make my writing more relevant and promote interesting and valuable discussions.

Despite the limitations mentioned above, the findings of my study offer valuable insights into the use of MOOCs by Saudi participants through three research instruments: observation, survey, and interviews.

### **6.5. Suggestions for Future Research**

There is a high demand for further research about MOOCs, both generally and particularly in an Arabic context. This is due to the new emergence and fast evolution of MOOCs, the enormous potential that MOOCs can offer to people around the world, and the limited number of resources and literature available at present, especially with regards to education. Further research would help universities and designers to maximise the potential of MOOCs to satisfy the needs of people with different ages and background. I suggest some research based on the literature that I reviewed and the results gained from this study. For example, I recommend further studies investigating the perceptions of international samples about MOOC pedagogies, how they use course tools, and how they use discussion forums in order to fully benefit from the social learning that MOOCs can offer. These participants' views might contain significant differences in comparison to my research, which focused only on Saudi participants. I also

suggest investigating Saudi participants' perceptions about their experiences in learning MOOCs on foreign platforms, such as Coursera and FutureLearn, especially regarding their motivations and the difficulties and cultural issues that might arise. These studies would help teachers and designers of MOOCs provide high-quality courses with better learning experiences for participants, which might increase the achievement of the courses' purposes. In addition, these studies could enrich the debate about using MOOCs in Saudi Arabia and might help facilitate Saudi people to benefit from online learning designed by international learning academies.

Based on the demographics of my participants, I found an interesting and necessary area of research focused on conducting quantitative study to explore the needs of school students, particularly in Saudi Arabia, and identify the subjects and fields most suitable for them. In addition, because MOOCs are used by Saudi university students, I found this could give an opportunity to design a framework for implementing MOOCs as part of blended learning or flipped classrooms for some social science university courses in Saudi Arabia. It might be interesting to investigate the impact of utilising MOOCs on students' engagement and their final grades.

Moreover, I recommend conducting research to investigate the perceptions of Saudi Higher Education teachers in relation to their experiences teaching MOOCs and the implications for their careers and teaching. I found it necessary to understand the opportunities that teaching MOOCs can provide, such as feedback for Higher Education teachers about their teaching, and whether this could help them improve their experiences. I also suggest exploring possible challenges faced by Saudi teachers and designers in MOOCs. Understanding these challenges could help in thinking and designing plans that might overcome difficulties and improve performance. Furthermore, I highly recommend conducting research to investigate the implications of learning in MOOCs offered by international universities from the perspective

of Saudi teachers, for instance whether their learning helps them minimise the gaps between university courses in Saudi Arabia and other university courses.

## **6.6. Personal Reflection on the PhD Journey**

Many researchers in education and the sciences agree on the importance of reflection and also argue that these reflections should be included in research reports and made public (Wellington, 2015, p.101). I decided to write my personal reflections here because I agree with Watt (2007, p.82), who states that reflexivity facilitates understanding the phenomenon of study and the research process itself and it may demystify the research process for people new to the field. Although the literature provides clear guidelines, each research is unique and ultimately the researcher should determine the best process to carry out his or her project (Watt, 2007, p.82). Before writing my reflection, I provide Wellington's definition of this term (2015, p.101):

Being 'reflexive' is part of a more general approach to research – being 'reflective'. The former is a subset of the latter. Being reflective involves thinking critically about the research process; how it was done and why, and how it could have been improved. Reflection is an important part at every stage, i.e. in formulating questions, deciding on methods, thinking about sampling, deciding on presentation, etc.

Earlier in this thesis, in the Methodology Chapter, I described my positionality, where I explained my experience and background that motivated and influenced the process of this project. This section discusses my reflections both during and after my research journey.

My PhD was a challenge as it was the first time I had studied abroad and conducted research in a language other than Arabic. In addition, it was the first time I had experienced living far away, for more than three years, from my home and family. Although I used advanced applications such as Skype, Snapchat, and FaceTime to keep in touch and speak with my family, I sometimes felt that I could not handle this alienation. However, I believed that the happiness I would feel after overcoming all of the challenges and obstacles would be worth it.

In fact, during my PhD journey, I developed many academic skills and these skills influenced my personality and way of thinking. I learned to think critically and analyse situations objectively, even in my personal life. I feel I became more patient and conscious and I learned to think deeply on all angles of things before judging or making decisions to ensure that I had a complete picture in my mind. I believe that a PhD requires the full energy of the researcher him/herself. I saw that conducting research over an extended period of three years forced me to take responsibility for managing my time and arranging my priorities. This was challenging at first, but after the first year I found that I had more control and organisation because I realised that while studying is a wonderful opportunity, it should not negatively affect other important things in my life, such as my social life and my leisure time, in order to keep my mind and soul healthy. I was very eager to balance the academic and personal aspects of my life and I tried to ensure each benefitted from the other.

Academically, this research gave me the new experience of conducting mixed methods research. My previous Bachelor's and Master's studies focused on coursework and quantitative research. During my PhD journey, I experienced observations and interviews for the first time. I faced some challenges when I was conducting interviews online, such as interruptions or interference, as well as the time difference between the UK and my participants in Saudi Arabia. However, I enjoyed this experience and it helped to develop my skills in managing dialogue and learning how to focus on the interview questions and not be too distant from the subject of research. I found that the qualitative data I gained from participants was especially valuable and it added substantial value to this research. I now have the passion to conduct further qualitative or mixed research in the future. However, from my experience designing this study's survey, I found it is not always enough to measure the survey's validity and reliability to ensure that the questions yield useful and meaningful results. I believe it is also important to consider the results from the pilot study and whether the participants' responses



make inferences that help the researcher. For example, as explained in Chapter Four, Section 4.5.2.2, the choices of the questions that asked participants about the number of MOOCs they had joined and completed could give useful inferences if their choices were designed differently. Thus, in the future, I believe it is important to think about the questions carefully and the expected responses and their meaning for the research.

In my PhD thesis, I followed the guidelines and I got approval to conduct my research from the University of Sheffield. Although in my previous studies I followed the general rules of the education system in Saudi Arabia, including preventing plagiarism, getting permission to collect data, and gaining consent from participants, I found the guidelines provided by the University of Sheffield helped to make my work more professional.

Nevertheless, it is important to note that every project could face some situations wherein the researcher is required to be flexible. For example, after observing one MOOC and collecting data from several interviews, I decided not to observe more MOOCs because I found the data would be adequate for this research, especially as I didn't think I would find anything particularly interesting or different in comparison to what I already had. In addition, I designed consent forms that needed signatures from the interviewees. However, after contacting them by email, I found getting their signature would take some effort and time as it required them to download the file, sign it, then attach the file to return it. For this reason, I decided, after consulting my supervisor, that electronic agreements were sufficient, especially since these emails were authorised by their names and accounts and all of their emails are saved in my email account at the University of Sheffield.

Finally, I have become convinced as a Saudi female with a full-time job that MOOCs are likely to become great informal learning opportunities in Saudi Arabia which everyone can join and benefit from regardless of their position, including students and employees. The flexibility and the quality of MOOCs provide a convenient learning approach that could help people to

improve their knowledge while meeting their social and job obligations. After conducting this research, the positive conclusion at the end has impressed me and encouraged me to develop more research focused on improving MOOCs and utilising them in developing the Saudi population personally, educationally, and professionally.

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## **Appendices**

## Appendix A: Data Letter



The  
University  
Of  
Sheffield.

The  
School  
Of Education.

Head of School  
Professor Cathy Nutbrown

Department of Educational Studies  
388 Glossop Road  
Sheffield S10 2JA

6<sup>th</sup> January 2016

Telephone: +44 (0114) 222 8144  
Fax: +44 (0114) 279 6236  
Email: [j.a.davies@sheffield.ac.uk](mailto:j.a.davies@sheffield.ac.uk)

To Whom it May Concern

Re: Manal Almuhanha

Manal Almuhanha is currently a PhD student at The University of Sheffield where I am her tutor. The focus of Ms Almuhanha's study is mainly on students' perceptions of their experiences and perceptions using this new mode of learning and teaching. She wishes to carry out a survey and to observe the interactions and online behaviour of students in a number of MOOC courses. She aims to collect some statistical data in order to contextualise her work, but the main methods will be qualitative. She plans to consider the nature and topic of interactions, following a largely ethnographic schedule.

I am aware that Ms Almuhanha has already been in contact with you about her work but we feel it is also necessary for you to have contact with myself, her tutor and supervisor for the study. I hope that it will be possible for you to allow Manal Almuhanha to access some of your MOOC courses and to contact students and staff to invite them to become part of the study. Manal and I would be more than happy to answer any questions you may have about her study which has gained ethical approval at The University of Sheffield in the United Kingdom. My contact email is given above but Ms Almuhanha can be reached via:

Manal A Almuhanha <[maalmuhanha1@sheffield.ac.uk](mailto:maalmuhanha1@sheffield.ac.uk)>

Yours sincerely

A handwritten signature in cursive script that reads 'Julia Davies'.

Dr Julia Davies  
Senior Lecturer

## Appendix B: The Information Letter for the Platform



### The information letter

**Respected (*name of the platform*) Owner,**

My name is Manal Almuhanha, PhD candidate from The Kingdom of Saudi Arabia, under the supervision of Dr. Julia A. Davies of The School of Education of The University of Sheffield (UK).

I would like to take your permission to use the (*name of the platform*) to conduct my research study that focuses on Massive Open Online Courses (MOOCs). The main interest of my research is to identify participants' perceptions about using MOOCs, and what they meant to their life. In addition, the research aims to determine key factors that influence the use of MOOCs in Saudi Arabia.

If I obtain your permission, I will need to contact Saudi participants who have completed MOOCs in (*name of the platform*) in order to invite them to take part in my study. I intend to collect my data from the participants by observing their general behaviours in some courses (will not exceed five courses), conducting a survey, and conducting interviews by Skype or mobile phone. However, all information provided by participants will be kept private and strictly confidential, and it will be used solely for the purpose of this research. Any name or identifying information about (*the platform*) courses or the personal identities of the participants will not be revealed in any dissertation or report resulting from this study.

I would also like to draw to your attention that your permission is voluntary, but it will benefit the Saudi community through contributing to the evolution of Saudi education in general and online learning in particular. Indeed, understanding Saudi perceptions of MOOCs is important in encouraging stakeholders, such as universities and institutions, to use and trust MOOCs, facilitate their implementation, and maximize their potential.

This research has been approved by The School of Education in accordance with The University of Sheffield Research Ethics policy. The research findings will be publicly available in the form of a short report on the Internet.

Your cooperation and consideration are highly appreciated. If you would like more information, please let me know by email at [maalmuhanna1@sheffield.ac.uk](mailto:maalmuhanna1@sheffield.ac.uk).

**Thank you in advance for your help and assistance with my research project.**

**Yours sincerely**



### **The Owner of *(name of the platform)* Consent Form**

I have been informed about the aims and purposes of Manal Almuhanha's research project. For that, I grant my permission to allow Manal Almuhanha to conduct her study by contacting Saudi participants who have completed MOOC(s) and the lecturers who introduced MOOC(s) in *(name of the platform)*.

I understand the following:

- Manal Almuhanha will collect the data by observing participants' general behaviours in some courses (will not exceed five courses), conducting a survey, and conducting interviews, during the period from the first of February to the mid of May 2016.
- All the data will be used solely for the purpose of the research and will be held strictly confidential and completely anonymous, including the course(s) name(s).

.....  
(Signature of *[the platform Owner]*)  
(Date)



## Appendix C: Observation Agenda

### Observation Agenda Form

Course name: ..... link: .....

Date: From ..... to ..... (..... weeks) lecturer: .....

General information about the course:

#### Week (number....) (lecture number.....) : Date

Course materials: (type of materials, quality and any other points)

- 
- 
- 
- 

Learners' interaction and notes:

- 
- 
- 
- 

Lecturer feedback:

- 
- 
- 
-

## Appendix D: Certificate of Appreciation

# *Certificate of Appreciation*

*Awarded to*

*.....Name of the participant.....*

For volunteering the time and effort to participate in the research on Massive Open  
Online Courses (MOOCs) in Saudi Arabia

**Affiliated with**

The University of Sheffield, United Kingdom

With your contribution, we have achieved research findings that will be essential to  
improving MOOCs in the future.



**Dr. Julia Davies**  
Research supervisor, School of Education  
[j.a.davies@Sheffield.ac.uk](mailto:j.a.davies@Sheffield.ac.uk)



March 20, 2016



**Manal Almuhanna**  
PhD researcher, School of Education  
[maalmuhanna1@sheffield.ac.uk](mailto:maalmuhanna1@sheffield.ac.uk)

## Appendix E: Learners' Survey

### *The Information Letter*

**Dear (*name of the platform*) Participant,**

Manal Almuhanha, a researcher from the Kingdom of Saudi Arabia is conducting a research project on Massive Open Online Courses (MOOCs), in order to complete the requirements for obtaining a PhD in Education from the University of Sheffield in the UK. The researcher is using MOOCs in (*name of the platform*) platform to identify Saudi participants' perceptions about using MOOCs, and what they meant to their life. Your assistance would highly appreciate, and would contribute to the success of the research findings by taking part in this research.

The research involves a survey, which will require about 10-15 minutes to complete. The survey contains three parts, which are aimed at understanding your perceptions of MOOCs, in the following areas:

- The impact of MOOCs on your life.
- The effectiveness of teaching and learning design in MOOCs.
- The social MOOC environment.

Taking part in this study is voluntary, but it will benefit the Saudi community through contributing to the evolution of Saudi education in general and online learning in particular. Indeed, your feedback is essential to improving MOOCs in the future, and it will be useful in encouraging stakeholders, such as universities and institutions, to use and trust MOOCs, facilitate their implementation, and maximize their potential.

To complete the survey, please click the link below, and read each statement carefully and then tick the appropriate box that is most compatible with your point of view or write your opinion in the box.

<https://docs.google.com/a/sheffield.ac.uk/forms/d/1ncHFfkASPAkG0WeOQrTbwgmXTg9YfGzZ1oclq1Hx5i8/closedform>

The researcher would like to interview volunteers to explore more closely and get more details about your opinion of using MOOCs as a Saudi participant. The interview will be conducted by Skype, and it will require about 40-60 minutes and will be recorded for use in this research only. For taking part in the interview, you will be entered into a prize drawing to win an iPhone 6s, and all interviewed participants will be given a certificate of appreciation.

Please tick the box below that indicates your decision:

- I understand the information above and agree to take part in an additional interview.

Please contact me again to arrange for that.

- I understand the information above, but I can not take a part in an additional interview.

**Thank you in advance for your help and assistance with my research project.**

**Manal Almuhanna**

**Yours sincerely**

*Further information*

*Your responses will be completely anonymous, and no identifying information will be revealed in any dissertation or report resulting from this study. You will have the right to withdraw at any time without any negative consequences. All information you provide will be considered completely confidential and private, and it will be used solely for the purpose of the research. There are no expected risks or discomforts related to this research, and if you feel uncomfortable with certain questions, please feel free to disregard them. By completing the survey, you are consenting to participate.*

*If you need any additional information, please let me know by emailing [maalmuhanna1@sheffield.ac.uk](mailto:maalmuhanna1@sheffield.ac.uk).*

*This research has been approved by The School of Education in accordance with the University of Sheffield Research Ethics policy. The research findings will be publicly available in the form of a short report on the Internet.*

### Using MOOCs in Saudi Arabia Survey

**General Questions: This section consists of demographic questions and general questions about MOOCs.**

Please answer the following questions:

1. Name (optional)	
2. E-Mail address (optional)	
3. Nationality	<input type="checkbox"/> Saudi <input type="checkbox"/> Non- Saudi
4. What is your age?	<input type="checkbox"/> 25 years or less <input type="checkbox"/> 26 ~ 30 years <input type="checkbox"/> 31 ~ 35 years <input type="checkbox"/> 36 ~ 40 years <input type="checkbox"/> 41 ~ 45 years <input type="checkbox"/> 46 ~ 50 years <input type="checkbox"/> 51 ~ 55 years <input type="checkbox"/> Over 55 years
5. What is your gender?	<input type="checkbox"/> Male <input type="checkbox"/> Female
6. Are you living in Saudi Arabia?	<input type="checkbox"/> No <input type="checkbox"/> Yes
7. If your answer yes to the previous question, please specify in which city you live in Saudi Arabia?	.....
8. How did you find out about MOOC platforms (such as Rwaq)?	<input type="checkbox"/> From my colleagues in my learning institution <input type="checkbox"/> From my employer. <input type="checkbox"/> None of the above
9. What is your main aim in using MOOCs?	<input type="checkbox"/> Gaining more information about my subjects. <input type="checkbox"/> Gaining more experience for professional development. <input type="checkbox"/> I am only interested in online learning.
10. Are you:	<input type="checkbox"/> Student in secondary school <input type="checkbox"/> An undergraduate student <input type="checkbox"/> A postgraduate student <input type="checkbox"/> A job seeker <input type="checkbox"/> An employee <input type="checkbox"/> None of the above,.....
11. What is your highest academic qualification?	<input type="checkbox"/> High school <input type="checkbox"/> Bachelor <input type="checkbox"/> Master <input type="checkbox"/> Doctorate <input type="checkbox"/> None of the above, please specify: .....
12. How often do you use MOOC?	<input type="checkbox"/> Daily <input type="checkbox"/> 1 ~ 3 times/week <input type="checkbox"/> 4 ~ 6 times/week <input type="checkbox"/> A few times a month

13. How many MOOCs have you joined but not yet completed?	<input type="checkbox"/> 1 ~ 3 courses <input type="checkbox"/> 4 ~ 6 courses <input type="checkbox"/> 7 ~ 9 courses <input type="checkbox"/> More than 9 courses
14. How many MOOCs have you completed?	<input type="checkbox"/> 1 ~ 3 courses <input type="checkbox"/> 4 ~ 6 courses <input type="checkbox"/> 7 ~ 9 courses <input type="checkbox"/> More than 9 courses
15. Select the MOOCs tool(s) which you have used. (Select all that apply)	<input type="checkbox"/> Forums <input type="checkbox"/> Wall posts <input type="checkbox"/> Assessment (peer-assessment or e-assessment) <input type="checkbox"/> Watching videos <input type="checkbox"/> Reading materials posted in the course such as PDF files or slide presentations

### Part 1: The Impact of MOOCs on your Life

Please select the option that is most compatible with your point of view:

Items	Strongly agree (5)	agree (4)	neutral (3)	disagree (2)	Strongly disagree (1)
1. MOOCs provide learners access to Higher Education.					
2. MOOCs facilitate learning for people with special needs.					
3. MOOCs provide information and references which are useful for academic researchers.					
4. Some MOOCs are helpful for professional development, which is very useful for Saudi employees.					
5. MOOCs provide an opportunity for continued lifelong learning.					
6. Using MOOCs in Saudi universities can help students improve their level of education.					
7. Learning through MOOCs has increased my confidence.					

8. Learning by MOOCs develops the process of self-learning.					
9. Producing MOOCs in English represents an obstacle for some Saudi learners.					
10. MOOC platforms provide suitable technical support.					
11. MOOCs are good starting point to learn some new subjects.					
12. My motivation for learning in MOOCs increases when certified academic certificates are provided.					
13. My motivation within MOOCs increases when I feel the content is useful to my life.					
14. I intend to study other courses via MOOCs.					
15. Learning via MOOCs helped me develop personal skills in learning such as time management, and self-discipline.					

## Part 2: The Effectiveness of Teaching and Learning Design in MOOCs

Please select the option that is most compatible with your point of view:

Items	Strongly agree (5)	agree (4)	neutral (3)	disagree (2)	Strongly disagree (1)
1. The design of MOOCs is suitable for my learning style.					
2. The design of MOOCs eases learning for several types of participants.					
3. I feel I have more freedom by learning via MOOCs because I can learn anytime, and from anywhere.					
4. With MOOCs, I can learn at my own pace.					
5. Some MOOC activities rely on social constructivism					

6. Learning activities in MOOCs met my needs.					
7. I prefer to communicate with the teacher via online tools (e.g., email, forums) rather than face-to-face.					
8. The teacher of the MOOCs provides support.					
9. The teacher's support helped increase my persistence with my learning.					
10. The length of the videos helped me maintain my concentration.					
11. E-assessment is more preferable to me than conventional assessment.					
12. I like peer-assessment.					
13. MOOC assessments provide immediate feedback.					
14. It is difficult to get effective feedback in MOOCs that will help me improve my learning.					
15. The Saudi MOOC platforms (such as Rwaq and Dorooob) met my expectations.					

### Part 3: The Social MOOC Environment

Please select the option that is most compatible with your point of view:

Items	Strongly agree (5)	agree (4)	neutral (3)	disagree (2)	Strongly disagree (1)
1. Using MOOCs helped me to acquire new colleagues in my discipline.					
2. I can build a productive relationship with the teacher in MOOCs.					
3. I can build a productive relationship with the learners in MOOCs.					
4. MOOCs increase the opportunity for collaboration between learners.					



5. MOOCs add an international dimension to the learning experience, which makes the learning more global than local.					
6. My motivation to learn increases when I can communicate with other learners in the MOOCs.					
7. I enjoyed sharing experiences with other learners in MOOCs.					
8. I prefer to join MOOCs that have a large number of learners who are participating in the forums.					

**Did you expect something in MOOCs but not achieve it? If yes, please specify:**

-----  
-----  
-----  
-----  
-----  
-----  
-----

**Did you gain something unexpected in MOOCs? If yes, please specify:**

-----  
-----  
-----  
-----  
-----  
-----

I will need to interview some of you to more closely identify your points of view with regard to using MOOCs in Saudi Arabia.

If you would like to participate in this interview, I kindly request that you fill in your name and contact information below.

I would like to participate.

Name:  
E-mail:

Mobile:  
Skype name/ID (if it is available now):

## The Findings:

### Age

Participants selected their ages from eight age ranges: 25 years or less, 26 to 30 years, 31 to 35 years, 36 to 40 years, 41 to 45 years, 46 to 50 years, 51 to 55 years, or over 55 years. I determined those age ranges based on the usual transitional periods for individuals, such as from being students to employees on the first years, then they may move to better position based on their experience, and so on. Table E.1 shows the results of participants' ages.

Table E.1: Distribution of the Study Sample by Age

Age	Frequency	Percent (%)
25 years or less	106	36.6
26 ~ 30 years	71	24.5
31 ~ 35 years	54	18.6
36 ~ 40 years	33	11.4
41 ~ 45 years	14	4.8
46 ~ 50 years	7	2.4
51 ~ 55 years	4	1.4
Over 55 years	1	0.3
Total	290	100

Table E.1 shows that the highest percentage of the participants' ages was 25 years and less by 36.6%, and that lowest percentage was the age of over 55 years, by 0.3%.

### Gender

The participants identified their gender from the list (male or female). I made this question mandatory because I was interested in finding out if there are significant differences between Saudi males and females in their usage of MOOCs, and the results are shown in Table E.2.

Table E.2: Distribution of the Study Sample by Gender

<b>Gender</b>	<b>Frequency</b>	<b>Percent (%)</b>
Male	95	32.8
Female	195	67.2
Total	290	100

Table E.2 shows that 67.2% of respondents were female, and only 32.8% were male. This means that female responses were more than double male responses, which made the difference significant.

### **Place of Residence**

Because MOOCs can be joined from anywhere, I asked a question to know if each participant was living inside Saudi Arabia. The result of this question is shown in Table E.3 below.

Table E.3: Distribution of the Study Sample by Place of Residence

<b>Are you living in Saudi Arabia?</b>	<b>Frequency</b>	<b>Percent (%)</b>
No	8	2.8
Yes	282	97.2
Total	290	100

From Table E.3, it can be seen that 97.2% of respondents lived in Saudi Arabia, and just 2.8% of participants lived outside of Saudi Arabia. This question helped me understand to what extent the Saudi MOOC platform was known and used by Saudi residents in the regions or cities, (if they answered yes, they needed to specify in the next question which city or region they live in). In addition, this could give insight into the reputation of the particular MOOC platform used in this study among Saudi individuals living inside and outside of Saudi Arabia.

### The Regions of Participants Who Live inside Saudi Arabia

The 97.2% of respondents who lived in Saudi Arabia were able to specify and write which city or region they lived in. However, this field was non-mandatory (*I used their answers mainly for selecting interviewees from different regions of Saudi Arabia*), so there were 13 participants who did not answer this question. The regions of the 269 respondents are shown in Table E.4.

Table E.4: Responses of Participants Who Live in Saudi Regions

Region in Saudi Arabia	Frequency	Percent (%)
Central	108	37.2
Western	92	31.7
Eastern	36	12.4
South	21	7.2
North	12	4.1
No answer	13	4.5
Not Living in Saudi Arabia	8	2.8
Total	290	100

The results in Table E.4 show that the highest percentage of respondents who lived in Saudi Arabia were living in the central part of the kingdom. Their locations included Riyadh city, Al Artawiyah, Ad-Dilam, Al Dawadmi, Al Zulfi, Al-Qassim Region, Al Majma'ah, Rimah, and Wadi ad-Dawasir. Another 31.7% of participants lived in western Saudi Arabia in cities of Jeddah, Makkah, Ta'if, Yanbu, Madina, Thuwal, and Rabigh. Furthermore, the percent of participants who were living in eastern Saudi Arabia was 12.4%, and their locations included Al Ahsa, Al-Qatif, Al Jubayl, Al-Khobar, Dammam, Safwa, Dhahran, Abqaiq, and Hafr Albatin. Low percentage of participants, at 7.2%, were living in the south of the country, and they lived in the 'Asir Region, including Abha, Al Bahah, jizan, Khamis

Mushait, Sabt Alalayah, and Najran. The lowest percentage of participants, about 4.1%, lived in the north in places including Al Jawf, Tabuk, Ha'il, and Sakakah.

According to the general statistics of Saudi Arabia Higher Education in 2015, there are 28 public universities distributed throughout many cities. The Saudi Electronic University is located in Riyadh, but it has 10 branches in other cities (MOE, 2015); the King Saud bin Abdulaziz University for Health Sciences is also located in Riyadh, but it has two branches in Jeddah and Al Ahsa. Imam Muhammad ibn Saud Islamic University is located in Riyadh as well, but it has a branch in Al Ahsa. In addition, there are 30 private universities and colleges, and most of them are located in cities that also have public universities (MOE, 2015). Figure E.1 shows a map of Saudi Arabia with the locations of the 28 public universities, including the branches of the Saudi Electronic University, King Saud bin Abdulaziz University for Health Sciences and Imam Muhammad ibn Saud Islamic University. On this map, I only show the cities that have public universities, and beside the name of each city, I put the number of public universities.



Figure E.1: Distribution of the Public Universities in Saudi Arabia in 2015  
 (Source of the map as blank is <http://saudiarabiamap.facts.co/saudiarabiamapof/saudiarabiamap.php>)

The data about the regions of MOOC participants evidence that many participants had universities in the cities where they lived, such as Riyadh, Al-Qassim, Makkah and Jeddah. In addition, there are some places that have universities but do not have any participants in this study that have participated in MOOCs. such as Shaqra and Bishah. However, the data show that there were some participants who lived in cities such as Al Zulf and Khamis Mushait, where there are no universities, and some of these cities are remote, being more than an hour away from the main cities in Saudi Arabia. This suggests that the features of MOOCs, which offer free, open online courses, are needed by people regardless of where they are and what they have in terms of Higher Education institutions. The flexibility of providing high-quality learning from experts seems to be one of the main advantages that attract Saudi individuals who are interesting in open online learning.

## Appendix F: The Consent Form of participant



### *The Consent Form of participant*

I have been informed about the aims and purposes of Manal Almuhanha's research project.

I understand the following:

- My participation is not compulsory, and I can withdraw any time.
- All the data will be used only for the purpose of the research, and it will be held strictly confidential and completely anonymous, including my course(s) name(s).

.....

**(Printed name of learner)**

.....

**(Signature of learner)**

**(Date)**

## **Appendix G: Participants' Interview Questions**

### **General Questions**

1. When you see that MOOC has been designed and produced by academics in prestigious universities, does that make you think about higher education?
2. Do you feel that using MOOC gives you confidence in your learning?
3. Are you able to learn in MOOC at any time, from anywhere, and at any pace?
4. Do you feel that using MOOC helps prepare you for lifelong learning?

### **Questions about Learning in MOOCs**

5. Do you think the contents of MOOC are useful to your life (for example, for your education, job, etc.)? How can you apply it in the future?
6. How do you feel about the teacher's feedback?
7. If you participated in the peer assessment, what did you gain from the other learners?
8. What do you think about e-assessment?
9. How do you feel about the learning activities in MOOC?
10. What do you think is the most appropriate length of video? Why?
11. Which materials (i.e. videos, quizzes, slides, etc.) would you like to see improved? Why?

### **Questions about communicating with others in MOOCs**

12. Describe your interactions with the others learners in the forums. Knowing the other learner's cultures, do you share experiences with other learners and discover new information with them?
13. Does MOOC help you to create a new learning community?
14. Do you have any comments or suggestions?



## Appendix H: Ethical Approved Letter



Downloaded: 13/01/2016  
Approved: 23/12/2015

Manal Almuhanna  
Registration number: 140249455  
School of Education  
Programme: PhD

Dear Manal

**PROJECT TITLE:** Participants perceptions of MOOCs in Saudi Arabia  
**APPLICATION:** Reference Number 003863

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 23/12/2015 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 003863 (dated 01/12/2015).
- Participant information sheet 1013630 version 1 (20/11/2015).
- Participant consent form 1013631 version 1 (20/11/2015).

The following optional amendments were suggested:

*See above*

If during the course of the project you need to [deviate significantly from the above-approved documentation](#) please inform me since written approval will be required.

Yours sincerely

Professor Daniel Goodley  
Ethics Administrator  
School of Education