

DEPOSIT AND CONSULTATION OF DISSERTATION

One copy of your dissertation will be deposited in ORA (Oxford University Research Archive), where it is intended to be freely available online. In order to facilitate this, you are requested to complete and sign the form below.

Please use block capitals

Surname	
SOFIZADA	
First names (in full)	
ABDUL HAI	
Faculty board	EDUCATION
Degree name and pathway	
MSC IN EDUCATION (COMPARATIVE AND INTERNATIONAL EDUCATION)	
Title of dissertation	
IMPROVIING FEMALE PARTICIPATION IN THE AFGHANISTAN HIGHER EDUCATION SYSTEM: THE ROLE AND APPLICATION OF INFORMATION TECHNOLOGY	
N.B. The title stated here must be precisely the same as that stated on the title page of the thesis submitted. A candidate wishing to amend the title previously approved by the faculty must apply to the faculty board for permission to do so.	
Supervisor	
DR. MAIA CHANKSELIANI	
Subject keywords	<i>Enter your own keywords or phrases to describe your work.</i> <i>This information helps us describe your work in ORA</i>
FEMALE PARTICIPATION, HIGHER EDUCATION, EQUITY, ACCESS, GENDER, EDUCATIONAL TECHNOLOGY (EDTECH), AFGHANISTAN	
Research methods used	<i>This information helps us describe your work on SOLO for future students</i> <i>e.g. quantitative, interviews, vocabulary test, systematic review, etc.</i>
QUALITATIVE RESEARCH, SEMI-STRUCTURED QUESTIONS, SYNCHRONOUS AND ASYNCHRONOUS INTERVIEWS	

Declaration by the candidate as author of the dissertation

1. I understand that I am the owner of this dissertation and that the copyright rests with me unless I specifically transfer it to another person.
2. I understand that the Department requires that I shall deposit one copy of my dissertation in the Oxford University Research Archive ('ORA') where it shall be freely available online for use in accordance with ORA's Terms and Conditions of Use [https://ora.ox.ac.uk/terms_of_use].
3. I understand that this dissertation should not contain material that can be used to personally identify individuals or specific groups of individuals, and that such material should be removed before this dissertation is deposited in ORA.
4. I agree to be bound by the terms of the ORA Grant of Non-exclusive Licence [www.bodleian.ox.ac.uk/ora/deposit-in-ora/deposit-licence] and I warrant that to the best of my knowledge, making my thesis available on the internet will not infringe copyright or any other rights of any other person or party, nor contain defamatory material.
5. I agree that my dissertation shall be available for download in ORA in accordance with paragraphs 2, 3 and 4 above.

Signed [an electronic signature is sufficient]: ABDUL HAI SOFIZADA

Date: 29/08/2022

**Improving Female Participation in the Afghanistan Higher Education System: The Role
and Application of Educational Technology**



**Abdul Hai Sofizada
St. Antony's College
University of Oxford**

**Dissertation submitted to the University of Oxford in partial fulfilment of the
requirements for the degree of MSc in Education (Comparative and International
Education)**

Words: 19,182

August 2022

Dedication

I dedicate this work to all the brave women of Afghanistan, especially those who, despite immense and incredible challenges of the time, strive to learn, educate themselves, and educate others.

Acknowledgments

This study was made possible through the support and guidance of many people to whom I owe a great sense of gratitude. My gratitude first goes to my supervisor, Maia Chankseliani, for her excellent guidance, supervision, motivation and inputs. I am grateful to the academic and administrative support of the Department of Education, University of Oxford, and feel fortunate to have been a part of a wonderful and positive-spirited 2021 – 2022 CIE cohort. Thanks to my friends, especially Clark and Enayat, for their encouragement, caring and unconditional support during my period of study in the UK. I highly appreciate the support, cooperation and understanding of my organisation, the World Bank, for allowing me time to pursue this intellectually stimulating programme. My family's continuous emotional backing helped me live through this experience with joy and curiosity. Last but not the least, my wholehearted thanks go to all the research participants for their time and for sharing valuable information that made this research possible.

Abstract

This study investigates the role of Educational Technology (EdTech) in improving female participation in Afghanistan higher education, the measures adopted so far and the remaining challenges to be addressed. Female participation in Afghanistan higher education has been shaped by conflict, socio-economic and political conditions, culture, institutional and individual capacity, structural and governance issues, community, family and individual factors and characteristics. In 2021, Afghanistan was ranked last in the gender parity index in tertiary education in South Asia, despite improvements in the last two decades, In terms of innovation, Afghanistan has lagged behind many comparator countries in the integration and application of EdTech for teaching and learning in higher education. The COVID-19 global crisis and the closure of university campuses amplified the central role of technology in ensuring continued access and participation. This study covers mainly the context of the last ten years, reflects on some of the existing challenges, and has implications for the future of women in higher education in Afghanistan. The study employed qualitative research, collecting data from the review of policy documents and semi-structured interviews with higher education policy-makers, academics and female students. The study's central finding is that EdTech plays a direct and critical role in improving female participation in higher education in Afghanistan. However, the optimal integration of EdTech to sustain and improve female participation and access is impacted by socio-economic conditions, infrastructural readiness, student agency - motivation and initiative – and teaching staff readiness, as well as the national and institutional regulatory and policy environment.

Keywords: Female Participation, Equity, Access, Gender, Educational Technology (EdTech), Higher Education, Afghanistan

Table of Contents

Acknowledgements	1
Abstract	2
List of Tables, Figures and Abbreviations	6
Chapter One: Introduction	7
1.1 Background and Context of the Study	7
1.2 Rationale and Motivations of the Study	8
1.3 Dissertation Outline	10
Chapter Two: Literature Review	11
2.1 Higher Education: Access and Participation, Equity and the Impact of COVID-19	11
2.1.1 Access, Equity and Participation: A Global View	11
2.1.2 COVID-19 and Implications for Equity and Participation	13
2.2 EdTech, Gender and Higher Education Technology: Promises and Pitfalls	14
2.2.1 EdTech and Higher Education	14
2.2.2 EdTech and Gender	15
2.2.3 Agency in Access and Participation	17
2.3 Afghanistan Higher Education, Female Participation, and EdTech	17
2.3.1 Higher Education in Afghanistan	18
2.3.2 Female Participation and EdTech in Afghanistan Higher Education	20
Chapter Three: Methodology	23
3.1 Research Questions	23
3.2 Research Design	23
3.3 Data Collection	24
3.4 Research Instruments	25
3.5 Data Analysis	26
3.6 Researcher's Positionality and Reflexivity	27

3.7 Methodological Limitations	27
3.8 Ethical Considerations	28
 Chapter Four: Findings	 29
4.1 Findings from the Policy Document Analysis	29
4.2 Findings from the Interviews	33
<i>4.2.1 Reflections on the Higher Education Policies</i>	33
<i>4.2.2 Historical Patterns in Afghanistan Higher Education and Female Participation</i>	34
<i>4.2.3 COVID-19, Educational Technology and Female Participation</i>	35
<i>4.2.4 Infrastructural Readiness</i>	38
<i>4.2.5 Teaching Staff Capacity and Student Agency</i>	40
<i>4.2.6 EdTech and Higher Education: Constraints and Social Relevance</i>	42
<i>4.2.7 The Overall Importance of EdTech and Women's Higher Education</i>	44
 Chapter Five: Discussion	 47
5.1 The Multifarious Challenges and Benefits of EdTech	47
5.2 Policy, Regulatory and Institutional Influences	48
5.3 Infrastructural Readiness	50
5.4 Socio-Economic Factors and Influences	51
5.5 Teaching Staff Readiness and Student Agency	53
 Chapter Six: Conclusion	 55
6.1 Summary of the Findings	55
6.2 Limitations of the Study and Prospects for Future Research	58
 References	 60
 Appendices	 78
Appendix 1: Ethics Approval	78
Appendix 2: Interview Questions	80

Appendix 3: Participation Information Sheet	86
Appendix 4: Participant Recruitment Email	91
Appendix 5: Oral Consent Form	93

List of Tables, Figures and Abbreviations

Table 1: Higher Education Enrolment in Public and Private Institutions	19
---	-----------

Table 2: Research Participants	24
---------------------------------------	-----------

Figure 1: School enrolment, tertiary (gross), gender parity index (GPI)	20
--	-----------

Figure 2: Digital Readiness in South Asia and Comparator Countries	21
---	-----------

Abbreviations:

AfgREN	Afghanistan Research and Education Network
CUREC	Central University Research Ethics Committee
EdTech	Educational Technology
HEDP	Higher Education Development Project
HEI	Higher Education Institute
HELMS	Higher Education Learning Management System
ICT	Information Communication and Technology
IT	Information Technology
ITU	International Communication Unit
MDG	Millennium Development Goals
MoHE	Ministry of Higher Education
NHESP	National Higher Education Strategic Plan
NREN	National Research and Education Network
SDG	Sustainable Development Goals
UNESCO	United Nations Educational, Scientific and Cultural Organization

Chapter One: Introduction

This chapter outlines the background and context of the study, the rationale and motivation behind this topic, the study's broad outline and the dissertation's structure.

1.1 Background and Context of the Study

Afghanistan has some of the lowest participation rates in education - for example in South Asia - especially for women and girls as they progress towards higher education (Sahar & Kaunert, 2021; Aturupane et al., 2013). It is also a context where educational technology (EdTech) is yet to be meaningfully mainstreamed for teaching and learning purposes or to expand the coverage of services to improve access and participation (Khalid, 2020).

For the purpose of this study, when we refer to “EdTech”, we encompass the multitude of ways in which technology is deployed to educate learners. It combines the two primary domains of 'learning' and 'technology' (Aparicio et al., 2016). In this study, EdTech is used in its broader definition of hardware and software to facilitate teaching, learning and accessing educational opportunities. This study seeks to examine the role of EdTech in improving female participation in Afghanistan higher education and asks the main question: How has educational technology been used to improve female participation in Afghanistan higher education?

The study unpacks the issues around the main research question and the sub-questions on what has been done so far and what constraints and barriers remain to be addressed to improve female access to and participation in higher education in Afghanistan employing technology. The perspective on EdTech and its role in improving access and participation are situated within the multifaceted challenges that the higher education sector in Afghanistan has been experiencing. The study is cognisant of the fluidity of the situation in Afghanistan and its impact on higher education, balancing any policy implications and recommendations with the reality on the ground.

The political upheaval that followed the August 2021 events in Afghanistan exacerbated some of these challenges in a country that – despite improvements in recent years - already showed poor gender equity, attritions and academic brain-drain (Sahar & Kaunert, 2022; Hayward & Karim, 2019; Khalid, 2020). Afghanistan remains in a protracted civil conflict and education – including higher education – has been in the crosshairs of this conflict (Sahar &

Kaunert, 2021; Samady, 2001; Giustozzi, 2010). Student enrolment and participation across the education spectrum, especially for girls, have historically been low (World Bank, 2018). Since the inception of the first institution of higher education in Afghanistan in 1932, the system began to expand only in the 1960s only in a handful the urban centres. However, it still remained limited for women and remained limited, especially for women, until the gradual expansion of higher education in the 1980s that witnessed relative improvements in female participation. While access to reliable data in Afghanistan is often challenging, currently available statistics indicate that gross female enrolment rates in Afghanistan remain the lowest compared to other South Asian countries such as Pakistan, Indian, Bangladesh and Nepal (World Bank, 2021). EdTech and its application across education is a relatively new phenomenon in Afghanistan with the bulk of EdTech initiatives implemented only in most recent years, with EdTech being rendered as an important alternative for access that is still largely untapped (Khalid, 2020; World Bank, 2022).

The findings from this study will be instrumental in contributing to academic knowledge about the role that EdTech has played in female participation in higher education in Afghanistan, unveiling barriers to be addressed for the potential of EdTech to be fully realised. The results of this study should influence future decisions at the national, local, family and individual levels towards female's access to higher education as well as in harnessing support from the external actors and international organisations for the future of higher education in Afghanistan.

1.2 Rationale and Motivation of the Study

This study is motivated by two questions which are central to any policy discussion around higher education in Afghanistan. The first question – an old one which has been asked about Afghanistan for decades – is: why does Afghanistan underperform in all measures of female participation in high education? The second question – a new one which scholars and policymakers are increasingly engaged with in all discussion of higher education – is: what role can EdTech play in promoting better participation rates especially for women? This study probes the challenges to accessing EdTech in Afghanistan in order to understand by EdTech is not necessarily, or is not yet, the panacea many hope for facilitating broad access to higher education in the country.

EdTech and female participation are central to the broader discourse about the contribution of higher education to local, national and global development (Chankseliani et al., 2020). It is widely argued that technology influences equity, digital divide, access and participation in higher education (Altbach et al., 2010b; Mathrani et al., 2021; Wickens & Miller, 2021). This study aims at contributing to specific knowledge and evidence about the interconnectedness between and role of EdTech in female participation and the Afghanistan higher education system. This area of investigation has remained under-researched in this specific country context.

This dissertation focuses primarily on the last ten years during which several important developments were observed, namely: (i) incremental increases in enrolment of both male and female students in higher education, (ii) gradual introduction of EdTech into teaching and learning, (iii) continued challenges in equity and participation, especially for girls, (iv) access and learning disruption due to the COVID-19 crisis, and (v) the political crisis that affected the country in August 2022 and related implications for access and participation in higher education. The central purpose of EdTech and its traits is “to utilize knowledge and skills of educators in such a way that education services can be provided anywhere and anytime without limitation of time and space” (Saay et al, 2016, p. 98).

The outbreak of COVID-19 was a significant turning point in higher education globally. Against the backdrop of this pandemic and the closure of educational institutions, there was an urgent need to ensure continuity of education (Ali, 2020). This was only possible by resorting to alternative means of teaching and learning, relying on EdTech-enabled platforms. While EdTech became the large-scale national and institutional instrument for maintaining continuity of education, issues of equity, disparities in the ability to access and participate in learning across the different population categories and in almost all countries were unveiled (Zhang et al, 2020; UNESCO 2020). Brotherhood et al. (2020) termed this global emergency different from the previous crises in that it required physical and social distancing. The authors argue that “higher education can drive social equity, even within the context of such crises” (p. 1) and, while universities tend to support their local communities, existing inequities – such as gender disparities, social and economic gaps - become ever more apparent in the face of such crises. The higher education sector in Afghanistan bore the brunt of this crisis, accentuating the challenges of a system that was already characterised by gender disparities, infrastructural shortfalls, and lack of preparedness to respond to the crises, and capacity constraints in the

application of EdTech (Hashemi, 2021). Most recent discussion of higher education point to the short and longer-term impact of the global pandemic (Wangenge-Ouma & Kupe, 2022), including the repositioning of EdTech around access, participation and digital (dis)parity.

The motivation for this study is based on the compelling case of safeguarding and improving female participation in higher education in Afghanistan through alternative means of participating in teaching and learning. The motivation builds on my years of professional engagement in supporting tertiary education in South Asia with a primary focus on Afghanistan. This engagement involved dialogue with the national governments, international development organisations, higher education institutions and beneficiaries. Throughout these years, it became increasingly evident that, despite improved enrolment and participation in the last ten years, gender disparities in enrolment and participation prevailed in Afghanistan (Pherali & Sahar, 2018; Mashriqi, 2016; World Bank, 2021). Advancing higher education through EdTech reinforced the motivation for undertaking this study. Afghanistan has been a newcomer in EdTech compared to the countries in the region. This research is further motivated by examining how EdTech can catalyse female participation as an alternative access pathway.

1.3 Dissertation Outline

This dissertation is structured such that Chapter Two undertakes a review of academic literature around the study topic and research questions. This literature covers issues of (i) access and participation, equity and the impact of COVID-19, (ii) policy and institutional-level factors' influence on female participation in higher education, (iii) the promises and pitfalls of technology in higher education, (iv) gender and technology in higher education, and (v) the context of female participation and EdTech in Afghanistan higher education. Chapter Three describes the research methodology, questions, design, data collection and analysis methods, positionality and reflexivity, methodological limitations, and ethical considerations. Chapter Four outlines the research findings from the policy document review and interviews. Chapter Five discusses the key themes of the findings in light of academic literature. Chapter Six concludes the dissertation by providing a summary of the study, its limitations, and the prospects for future research. The dissertation title was adjusted in consultation with my supervisor following a preliminary literature review and research to reflect the research dimensions appropriately and accurately. It was subsequently approved as it stands in this dissertation.

Chapter Two: Literature Review

This chapter surveys relevant academic literature pertinent to the examination of female participation in higher education in Afghanistan and the integration of EdTech into the education system for access and participation.

2.1 Higher Education: Access and Participation, Equity and the Impact of COVID-19

2.1.1 Access, Equity and Participation: A Global View

The scholarly discourse around education has differentiated ‘equity’ and ‘equality’. Although the two terms are sometimes utilised interchangeably, for the purpose of this study, equity is defined as the ‘equality of opportunities’ (Espinosa, 2007). Espinosa (2007) notes that equity is grounded in the concept of fairness. The concept of fairness in higher education would entail opportunities to acquire higher learning in proportion to the individual's needs. Kasozi (2009) presents the broader definition of equity “as equal access to a given social service by all members of society irrespective of class, ethnicity, religion, gender, region of origin, or physical disability” (p. 66). When specified for higher education, equity demonstrates access to educational facilities provided on equal terms (Kasozi, 2009).

While ‘participation’ is an output of fundamental processes relating to enrolment and access and is a precursor for equity in education, it is not a sufficient condition to guarantee equity and inclusion (Blessinger et al., 2018)). It is argued that ‘merely gaining entry’ into higher education does not equate with participation and that expansion does not necessarily translate into equal opportunities for the marginalised or disadvantaged populations. Participation entails meaningful engagement in higher education insulated from the practices that amount to exclusion (Blessinger et al., 2018; Olson-Strom & Rao, 2020; McCowan, 2016). To provide more clarity to some of the recurrent and essential terms used in this study, ‘access’ is also framed as the “Equality of access...when both male and female have equal access to formal and informal education and can be enrolled from school to university” (Mashwani, 2017, p. 44). Higher education systems are also characterised by the degree of inclusivity defined by creating enabling environments, inclusive policies and cultures that would benefit all members of the society eligible for higher learning (Arnold & Bassett, 2021).

Institutions of higher learning and education have played a central role throughout history in producing the cadre that has contributed to the development of societies in many ways (Chankseliani & McCowan, 2020). More than just the neoliberal concept of economic return and growth, the social benefits of higher education, particularly for women (Tjomsland, 2009), extend beyond universities “to larger parts of society, thereby supporting upward social mobility and the creation of a fairer and more egalitarian society” (Brennan, 2018, p. 81). According to Schenel and McCowan (2016), social betterment through participation in and acquiring higher learning is also a desire driven at the family level in all contexts that cover high, middle and low-income countries.

Higher education expansion has been accompanied by inequalities defined by gender, rural and urban, poor and rich, and disadvantaged population categories such as the disabled, race, religion, the cultural and historical contexts (Tilak, 2015; Guri-Rosenblit, 2010). While most countries have successfully addressed participation and equity, many other societies still grapple with this issue (Hayward & Karim, 2019). Inequity often finds its cause in deep-rooted cultural and societal norms, values and perceptions (Sen, 2001; Altbach et al., 2010a). In a related argument, Bennett et al. (2015) observe that under-representation of certain groups is perpetuated and “hidden from view by virtue of established higher education traditions, cultures, and associated value-systems, disadvantaged peoples will remain disproportionately underrepresented...” (p. 242).

International documents have consistently promulgated equity of access in tertiary education (Chien et al., 2016). The UNESCO World Declaration on Higher Education for the Twenty-first Century advocates for women’s participation in higher education (UNESCO, 1998). The Declaration was framed as a result of the increasing attention to higher education's role in the twenty-first century's development agenda and to ensure that the rapidly growing higher education, *inter alia*, does not amount to global gender inequities (Leathwood & Read, 2008; Kearney, 2010). Article 4 of the Declaration is specific about gender equity and calls for urgent actions by the nation-states to eliminate any forms of discrimination that impede female access to higher education, and that the system should be based on the 'principle of merit' (UNESCO, 1998). The Millennium Development Goals (MDGs), which guided the global development agenda for many years, did not specify higher education as one of the central tenets of development. However, this designation was embedded in the Sustainable Development Goals (SDGs) (Schenel & McCowan, 2016). The reference to higher education

in the SDGs has implications for socio-economic development and equality of access to higher learning regardless of gender (United Nations, 2015). SDGs make a specific reference at “ensur[ing] equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university” (United Nations, 2015).

Discussions of higher education advocate for an all-encompassing development perspective, stating that viewing higher education purely from an economics-focused lens, will mask the challenges of participation, expansion and fairness to start with (Zajda, 2018). Marginson (2011) notes that strategies to enhance gender and socio-economic equity in higher education call for embodying one or two key objectives, as follows:

The first strategy is to advance ‘fairness’ by changing the composition of participation, bringing higher education into line with the ideal model of a socially representative system. The second strategy advances ‘inclusion’ by broadening the access and completion of under-represented groups. (p. 23)

According to UNESCO (2021), gender parity¹, especially in the upper secondary and tertiary education levels, has not yet been achieved in a number of countries. While parity has been achieved in many countries in the last two decades, regional, national and local variations are essential considerations for policy-making. In the same vein, global crises and emergencies equally affect higher education, unmasking the social gaps and inequities in participation.

2.1.2 COVID-19 and Implications for Equity and Participation

Education was severely affected by the COVID-19 global crisis. Face-to-face teaching was suspended in most countries, leaving many from pre-school to higher education disrupted in accessing education (Tang et al., 2021). The UNESCO (2020) assessment shows that, by mid-April 2020, around 1.5 billion learners were affected and, in more than 190 countries, educational institutions of all levels were physically closed. Around 175 countries were forced to close institutions of tertiary education, accounting for over 220 students or 13 percent of the

¹ The gender parity index (GPI) is a measure used to assess gender differences in education indicators. It is the ratio of female to male values of a given indicator. A GPI between 0.97 and 1.03 indicates parity between the genders. A GPI below 0.97 indicates a disparity in favour of males. A GPI above 1.03 indicates a disparity in favour of females (UNESCO, 2022).

total student population globally (Arnold & Bassett, 2021). Arnold & Bassett (2021) state that while remote delivery was adopted as the new normal, the pandemic uncovered “weaknesses in terms of equity, financing and management, to name just a few” (p. 57).

While the crisis presented new opportunities and lessons learned, especially in the innovative application of EdTech, many systems grappled with adapting to the new delivery models (Ali, 2020; Netswera et al., 2022). It gave rise to profound inequities and disparities within and across countries (Händel et al., 2022; UNESCO, 2020b; Alyahya et al., 2022). Ghavifekr and Fung (2021) observe that the impact of COVID-19 on continued access and participation in higher education distilled and manifested itself at the community, family, and individual-teacher-institution engagement levels. Capacity constraints, socio-economic, gender and a multitude of other influences determined who could remain engaged in higher education and under what circumstances (Arnold & Bassett, 2021; Doyle, 202). Barriers to women's role in higher education were and are shaped by wider implications of socio-economic and political conditions, history and culture of a particular context (Olson-Strom & Rao, 2020). The COVID-19 crisis and the response by national governments and higher education institutions was a reminder of the nature, capacity and effectiveness of policy and institutional-level decisions that upheld female participation and equity or exacerbated the existing divides.

2.2 EdTech, Gender and Higher Education Technology: Promises and Pitfalls

2.2.1 *EdTech and Higher Education*

Higher education and EdTech go together in today's fast-changing world in which technology has become an integral part of everyday life. Since the beginning of the 21st century, higher education has witnessed a rapid expansion and increased demand for technology use (Händel et al., 2022; Cronje, 2016). Alternative approaches to the conventional methods of teaching and learning in higher education are facilitated through EdTech, such as online classes (Altbach et al., 2010b; Ryan & Latchem, 2016), thus “transforming the isolated, teacher-centred, lecture-based instruction and text bound classrooms into rich, student focused, interactive knowledge environment” (Islahi & Nasrin, 2019, p. 37). Furthermore, Wickens and Miller (2021) reaffirm that “digital technologies are still posited as powerful tools for learning and access to higher education” (p. 53).

Arnold and Bassett (2021) note that "Technology in general, and digitalization of delivery, in particular, are no longer the future for tertiary education; they are the present. No system can afford to ignore or diminish its commitment to effective technology" (p. 37). Technology has also been one of the key drivers of global and regional collaboration between institutions, a means of competition for development, internationalisation and international virtual mobility of students and academics (Waller et al., 2019). Massive Open Online Courses (MOOCs) is one instance and manifestation of emerging technology in higher education (Üstün, 2021) through which virtual mobility and participation has been increased.

Notwithstanding its benefits and promises, EdTech has also created pitfalls in higher education, especially in terms of equity or the equality of opportunity to access technology meaningfully. Disparities in access can impact learning outcomes, thus creating gaps driven mainly by macro, institutional, socio-economic, gender and a multitude of other factors. Ethical issues such as the protection of confidentiality are also referred to as a challenge in using modern technology for communication and learning (Singh, 2016; Hameed et al., 2018). Beaunoyer et al. (2020) and Palomarez-Ruiz et al. (2020) agree that (in)accessibility of education technology is a cause for the digital divide and other forms of inequity that surface between institutions and individuals. Integration of EdTech carry cost implications for hardware and soft skills such as the training, skills and capacity to utilise technology effectively. Advances in technology have not necessarily contributed to cost reduction and higher education is already an expensive sector that demands sufficient resource and capacity (Kasozi, 2007; Palomarez-Ruiz et al., 2020; Antonio & Tuffley, 2014; Laufer et al., 2021).

2.2.2 *EdTech and Gender*

O'Donnell and Sweetman (2018) postulate that "Technology mirrors the societies that create it, and access to it (and effective use of) technologies is affected by an intersecting spectrum of exclusion including gender" (p. 217). Wickens and Miller (2021) situate gender difference and digital technology in the context of digital divide to define "the gap between those with access to computers and the Internet and those with limited or no such access" (p. 57). Wickens and Miller further observe that gender is an identity mark that is ascribed upon birth. It leads to the characteristics, values, notions and stereotypes that each individual is expected to carry, and to challenge these ascriptions can be particularly difficult for women and girls. Hussain and Amin (2018), Dolch (2020), and Islahi and Nasrin (2018) point out that

technology is often linked with masculinity and has gendered associations to question. The authors highlight how technology in fact may raise barriers for women and girls due to the gendered social relationship with technology. This feminist standpoint emphasises the long-standing structural and institutional trends and practices that have inflected technology with a patriarchal designation, in turn limiting women's access to the benefits to be reaped from its integration into all aspects of society (Ormrod, 2018).

Scholars also debate the role and position of gender in technological participation (Tzavara & Wilczek, 2019; Tang et al., 2021; Yoshida et al., 2020). While research by Albert and Johnson (2011) and Cuadrado-Garcia et al, (2010) suggest that there are no significantly visible differences in technological skills between female and male students, other empirical studies highlight gender disparities in skills and access to technology in education and broader context mainly in the developing and less developed countries (Antonio & Tuffley, 2014). Antonio & Tuffley (2014) point to the entrenched cultural attitudes and socio-economic factors in most developing and low-income countries that determine access to technology such as the internet and digital devices. It is important to note that the increase and proliferation of technology for educational, social and economic objectives do not necessarily close the gender digital divide even in some countries where access issues are significantly addressed.

Understanding of technology's gender dimension requires more robust and meaningful data to track any progress in closing the gender gap. As noted by Antonio & Tuffley (2014), information on the digital divide should go beyond the anecdotal accounts of countries and systems. The 2020 statistics presented by the International Communication Unit (ITU)² indicated that accurate data on gender related access gaps is critical for informed policy interventions (ITU, 2020). Data and information are also the necessary elements of addressing the gender gaps and facilitate equitable access to technology, especially in the use of EdTech in higher education (Yoshida et al., 2020; Khalid, 2020; Dolch, 2020). According to ITU (2020), in 2020, 62 percent of all men had access to the internet compared to 57 per cent of all women. The report by ITU between the period 2018 and 2020 points to persistent divides in the Least Developed Countries LDCs (percentage of women using the internet was 12 percent lower than men, the Landlocked LDCs (27 percentage of women accessing and using the internet compared to 38 percent of all men), Africa (24 percent of all women compared to 35

² The International Telecommunication Union (ITU) is the United Nations specialised agency for information and communication technologies – ICTs.

percent of all men), and Asia-Pacific (54 percent of all women compared to 59 percent of all men). In contrast, Americas and Europe showed that (79 percent of all women compared to 78 percent of all men) and (83 percent of all women compared to 87 percent of all men) accessed the internet.

2.2.3 *Agency in Access and Participation*

Unterhalter (2009) and, Islahi and Nasrin (2018) point to the social foundations and structural influences that shape and develop the individual agency and effective initiative irrespective of gender. In their critical perspectives on technology and capability, Zheng and Stahl (2011) unpack the relationship between individual agency, technology, access to learning and development. Using Sen's capability approach, the authors argue that personal individual aspirations and expectations in pursuit of good life drive the personal agency to adopt and use information communication and technology (ICT). Sen's definition of agency is about the ability to pursue one's freedom, choices, and goals that underpin the concept of an individual's development (Sen, 1999). This definition of agency combines conditions presented by the surrounding environment and individual abilities (Gapser, 2007), which also applies to notion of access to and meaningful participation in higher education. The understanding, development and exercise of agency are parts of a critical discourse in education to determine participation under different circumstances and constraints. In conceptualising a framework for the digital divide, Mathrani et al. (2021) stressed the agency for negotiating with the immediate environment to secure access to technology. Marathi et al. link agency to the ability to participate and learn through information communication and technology. The concept and understanding of agency are critical for this study to discuss the environmental opportunities and constraints that female students need to demonstrate to navigate their path to higher education.

2.3 *Afghanistan Higher Education, Female Participation, and EdTech*

Focusing on the Afghanistan context, this section looks at higher education, female participation, the setting and utilisation of EdTech in the higher education sector.

2.3.1 Higher Education in Afghanistan

Afghanistan's higher education system constitutes university education starting at the undergraduate level after completion of the baccalaureate equivalent to 12th grade or upper secondary school. Higher education institutions are comprised of universities and higher education institutes (HEIs). Public higher educations are governed by a law and private institutions fall under the purview of a regulation (Ministry of Higher Education, 2016; Ministry of Justice, 2020; Ministry of Higher Education, 2020a; Ministry of Higher Education, 2021a). Constitutionally, public education in Afghanistan has been free up to the undergraduate level (Islamic Republic of Afghanistan, 2004). Last year's regime change renders these policy and regulatory bodies ambiguous in terms of implementation, although, to date, no legal substitutes or alternatives have been proposed.

Various factors have shaped historical patterns of higher education in Afghanistan and participation since the inception and birth of the system in the country in the early 20th century (Sahar & Kaunert, 2021; Samady 2001; Sahar and Kaunert, 2022). The first institution of higher education was established in the 1930s and it was not until the 1960s before the system gradually expanded with the establishment of other universities and programmes. However, higher education was highly selective – featuring gender and ethnic discrimination – in which participation remained largely limited to the elite urban swaths such as in Kabul (Sabzalieva, 2019; World Bank, 2018).

Higher education in Afghanistan has been at the crossroads of its tumultuous history of conflict (World Bank, 2018). The recurrent political turmoil, successive regime changes, civil war and protracted conflict have inflicted significant infrastructure and human resources losses at different historical intervals (Najimi 2012; Roof; 2014). Although low and limited in mass participation, Afghanistan's universities were among some of the best institutions in the region in the 1960s and 1970s and the system was one of the highly developed in the region (Sabzalieva, 2019). This situation did not last long as the country was engulfed by the civil war and conflict that have engulfed the country for more than forty years, resulting in mass exodus of academics and students (Adkins, 2016; Lindsay and Williams, 2014). According to Couch (2019), migration, death, disappearances and detentions during the civil war led to the outflow of over 40 percent of university academic members between 1978 and 1986.

In retrospect, the period starting from early 2002 marked significant improvements in the higher education sector in Afghanistan (Babury & Hayward, 2014; Hayward & Babury, 2015). Student enrolment increased multi-fold until late 2020 (Table 1.). As of 2021, Afghanistan had registered 39 public institutions and almost 130 private institutions of higher education (Ministry of Higher Education, 2022a; Ministry of Higher Education, 2022b). In the face of multiple other challenges and similar to many other contexts, higher education has had a critical role in Afghanistan's development, including peacebuilding (Burridge et al., 2016; Sahar & Kaunert, 2021; Chankseliani et al., 2020).

Much of the development financing aimed at supporting higher education in Afghanistan came from external sources. The larger portion of development investment in education concentrated on primary and secondary, leaving the increasing demand in higher education unmet (Babury & Hayward, 2015). This is a typical indicator of a low-income, resource and capacity-constrained environments in which also, according to Chankseliani and MacCowan (2020), the pattern of international financing perpetuates aid dependency.

Table 1. Higher Education Enrolment in Public and Private Institutions

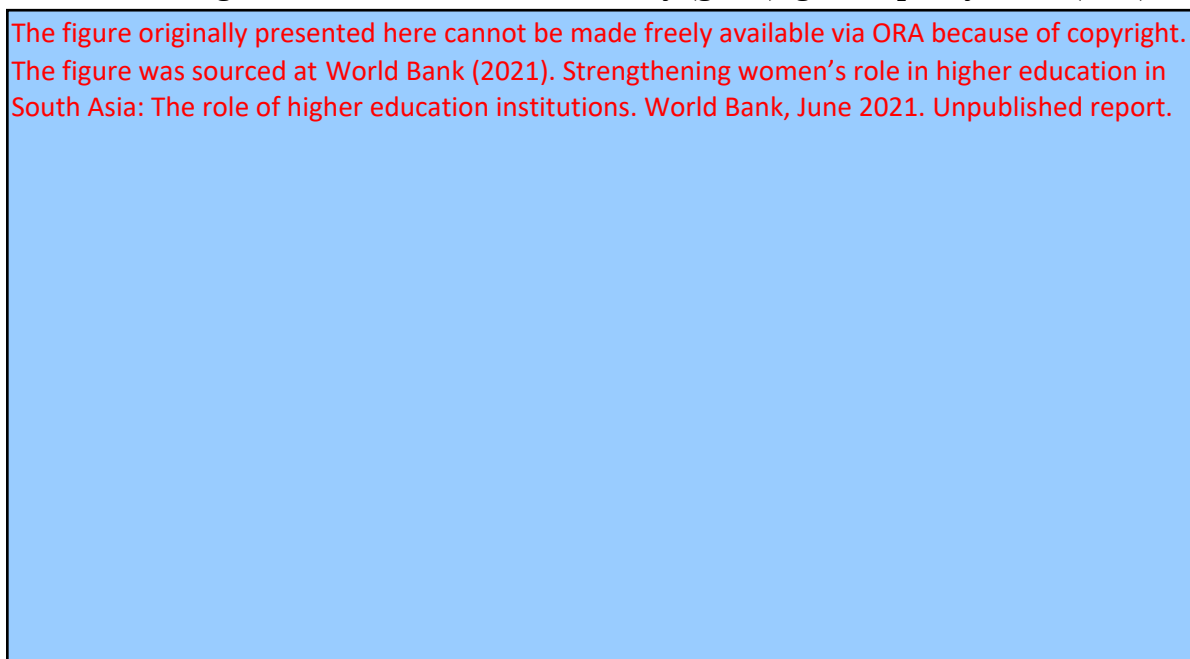
Universities				Students					
Year	No. of Institutions			Student Enrolments (by Gender)			Student Enrolments (by University Type)		
	Total Universities	Public	Private	Total Enrolment	Male	Female	Public	Private	Total
2002	0			22,683	22,683	0	22,683	0	22,683
2003	0			30,639	24,467	6,172	30,639	0	30,639
2004	0			39,514	31,224	8,290	39,514	0	39,514
2005	0			39,354	30,546	8,808	39,354	0	39,354
2006	0			41,892	34,143	7,749	41,892	0	41,892
2007	21	19	2	49,311	40,692	8,619	49,311	0	49,311
2008	27	20	7	56,751	46,735	10,016	56,751	0	56,751
2009	34	22	12	61,709	49,529	12,180	61,709	0	61,709
2010	44	23	21	84,349	69,215	15,134	63,837	20,512	84,349
2011	58	24	34	113,202	93,268	19,934	77,877	35,325	113,202
2012	76	26	50	160,959	132,224	28,735	101,315	59,644	160,959
2013	97	31	66	205,251	166,718	38,533	124,741	80,510	205,251
2014	113	31	82	261,290	208,009	53,281	153,314	107,976	261,290
2015	135	34	101	300,296	236,372	63,924	171,561	128,735	300,296
2016	158	36	122	341,273	263,675	77,598	182,344	158,929	341,273
2017	164	36	128	365,982	275,509	90,473	184,729	181,253	365,982
2018	181	38	143	392,724	290,961	101,763	186,014	206,711	392,725
2019	178	38	140	422,899	309,307	113,592	197,247	225,652	422,899
2020	179	39	140	424,114	301,528	122,586	205,480	218,634	424,114

Source: Data received by the author in early 2021 from the Ministry of Higher Education, Islamic Republic of Afghanistan.

2.3.2 Female Participation and EdTech in Afghanistan Higher Education

Access to and participation in higher education in Afghanistan are critical imperatives for female higher education and are characterised by many barriers (Payne et al., 2019). Despite the increasing trend of female participation, particularly in the last ten years up to 2021, Afghanistan stood the lowest rank in South Asia on the gender parity index for gross school and tertiary education enrolment (Figure 1) (World Bank, 2021). In their study of women and higher education in Asia, Olson-Strom and Rao (2020) posit a wide range of political, social, cultural and economic hurdles such as poverty, family and community perceptions of girls' education, poor infrastructure, violence, conflict and fragility across the governance system. These conditions are relevant and applicable to the context of Afghanistan (Sabzalieva, 2019; Shayan, 2015).

Figure 1. School enrolment, tertiary (gross), gender parity index (GPI)



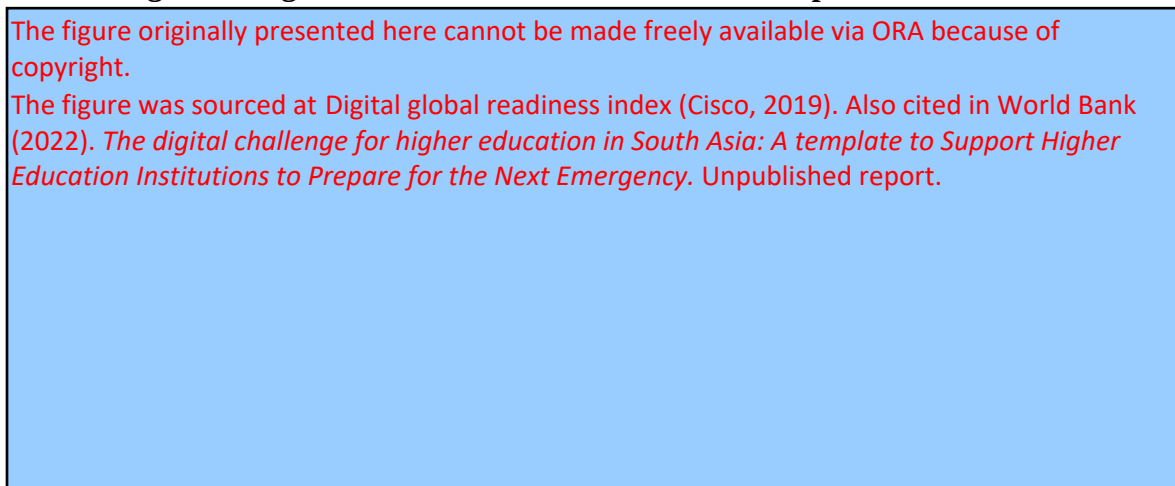
Source: World Bank (2021). *Strengthening women's role in higher education in South Asia: The role of higher education institutions*. World Bank, June 2021. Unpublished report.

Equally pertinent to the narrative of higher education and female participation is the perspective on and understanding of the role, application and aim of EdTech in this specific country context (Ministry of Higher Education, 2020d; Ministry of Higher Education, 2021b).

The move to digital technology in the Afghanistan higher education system is a relatively new phenomenon. Initial steps to introduce EdTech in or the digitisation of higher education in Afghanistan began in 2003 in the form of E-learning for teaching and learning, though limited in scope and coverage. Kabul University was the first institution to start using technology following the establishment of an ICT centre (Oryakhail et al., 2021).

Wider application of technology remained limited largely due to the persisting challenges of digital infrastructure, such as the low supply and coverage of the internet. With support from international partners, MoHE developed a plan to utilise learning technology that included three phases, namely (i) development of the physical technology-based infrastructure, (ii) implementation of online together with face-to-face classes (the hybrid or blended model), and (iii) roll-out of entirely virtual and online classes (HEDP, 2020). Despite gradual progress over the years, the lack of financial resources, readiness of academics, compounded by infrastructure deficiencies, such as the internet, impeded effective implementation (Oryakhail et al., 2021). The socio-economic conditions determined, to a large degree, students' ability to afford basic digital devices, internet and time to access technology off-campus for learning. Data suggest that, despite efforts and a level of improvements in the recent years, Afghanistan demonstrated the lowest digital readiness among most counties in South Asia and other comparable contexts (Figure 2.). It was also placed at 133 among 141 countries on digital readiness (Cisco, 2020).

Figure 2. Digital Readiness in South Asia and Comparator Countries



Source: Digital global readiness index (Cisco, 2019). Also cited in World Bank (2022). *The digital challenge for higher education in South Asia: A template to Support Higher Education Institutions to Prepare for the Next Emergency*. Unpublished report.

To connect Afghanistan universities to the regional and global educational and research networks, the National Educational and Research Network (NREN) as 'AfgREN' was established. NRENs are central in providing digital content for research and educational purposes and internet connectivity for member countries (Saay et al., 2015). With modest progress and university coverage, NREN's role in Afghanistan higher education remained limited to providing internet access to several public universities with minimal applicability in terms of digital content and E-learning.

The COVID-19 crisis was a watershed in higher education as universities closed for face-to-face teaching. The sector in Afghanistan was also forced to shift to non-conventional delivery mechanisms. The level of system unpreparedness exposed the existing barriers to the effective use of EdTech for education delivery (Sarwari et al., 2022; Hashemi, 2021). As noted above, individual and family socio-economic conditions reflected the additional barriers for students to remain engaged through distance and virtual means. In a rush to adapt to the changes, the Ministry of Higher Education embarked on rolling out the Higher Education Learning Management System (HELMS)³ (Mohammadi et al., 2021). Mohammadi et al. (2021) point to the reality of higher education having to resort to countrywide distance learning during COVID-19 for the first time in Afghanistan. HELMS implementation encountered several challenges, including lack of policy directions, procedures, guidelines and lack of consistency or capacity at universities. The COVID-19 operational response plan and the by-law on E-learning drawn by MoHE also required better alignment with each other for practical purposes (Ministry of Higher Education 2020b; Ministry of Higher Education 2020d) particularly in the face of abrupt changes caused by the pandemic.

The above section looked at higher education, issues of equity and access, female participation and EdTech from a global perspective and narrowed down the focus on Afghanistan in light of the existing literature. Following this literature review, the intersecting role of technology in higher education and its influence on access and participation by female learners in the specific context of Afghanistan is analysed in Chapter Four and Chapter Five that draw empirical data from the research findings.

³ According to Mohammadi et al. (2021) “HELMS (Higher Education Learning Management System) is a countrywide LMS used for teaching and learning during the quarantine period caused by COVID-19 in Afghanistan universities” (p. 5165).

Chapter Three: Methodology

There is no such thing as a worthless conversation, provided you know what to listen for. And questions are the breath of life for a conversation.

James Nathan Miller (1965)

3.1 Research Questions

The present study explores the role of EdTech in improving female participation in Afghanistan higher education. It reviews the global evidence and critical academic literature on the topic and discusses the topics in light of the relevant literature and qualitative empirical data gathered from policy document review and interviews. The study is guided by one primary research question and two sub-questions as follows:

Primary Research Question

How has educational technology been used to improve female participation in Afghanistan higher education?

Research Sub-questions

What has been done in incorporating educational technology to improve female participation in higher education in Afghanistan?

What are the remaining challenges to tackle to improve female participation in higher education through the integration of educational technology?

3.2 Research Design

The research adopts a qualitative approach to investigate the topic and address the research questions. The reason for employing a qualitative approach was in that this approach

helps answer questions such as ‘what’ and ‘how’ related to this topic (Patton, 2015; Ghavifekr & Fung, 2021). The study attends to the research questions through the lens of 'constructivism' epistemology. This epistemology generates and constructs knowledge on the topic through participant information and document review (Coe, 2012; Creswell, & Poth, 2018). The study contacted and selected the respondents individually and through snowball sampling. This was complemented by the review of relevant policy documents. Respondents included former policy-makers, academics and female students. Due to the precarious situation in Afghanistan and travel issues, interviews were conducted virtually. Interviews were conducted using semi-structured questions and completed over one and half months. Questions were outlined in English and Persian (Farsi), designed to enable the participants to provide answers in whichever language that they felt comfortable with. Some of the questions were exploratory to obtain more detailed answers. The period covering essentially the last ten years of higher education in Afghanistan was considered for the research.

3.3 Data Collection

The core of the research findings comes from two primary data sources: interviews and policy document review. Interviews were conducted with 21 selected participants (Table 2).

Table 2. Research Participants

No.	Description	Gender	Agency	Pseudonym and Code
1	Former Policy-Maker	Male	Ministry of Higher Education	PM01
2	Former Policy-Maker and University Chancellor	Male	Ministry of Higher Education Public University	PM02
3	Academic	Female	Private University	A01
4	Academic	Male	Public University	A02
5	Academic	Male	Public University	A03
6	Academic	Female	Public University	A04
7	Academic	Female	Public University	A05
8	Academic	Female	Public University	A06
9	Academic	Male	Public University	A07
10	Academic	Female	Private University	A08
11	Student (Graduated)	Female	Private University	S01
12	Student (Graduated)	Female	Private University	S02
13	Student (Current)	Female	Public University	S03
14	Student (Current)	Female	Public University	S04

15	Student (Current)	Female	Public University	S05
16	Student (Current)	Female	Public University	S06
17	Student (Graduated)	Female	Public University	S07
18	Student (Graduated)	Female	Private University	S08
19	Student (Current)	Female	Private University	S09
20	Student (Current)	Female	Private University	S10
21	Student (Current)	Female	Private University	S11

The participant selection was largely purposive. Purposive sampling is applied in research, particularly when 'information-rich' data sources around a specified topic need to be identified (Merriam, 2009; Patton, 2015). Participation selection also included snowball sampling, an exercise to widen the scope of data sources (Staller, 2021). For the selection process, I relied on my previous professional contacts to recruit the first set of participants and expand it. To ensure participant relevance to the research, snowball sampling was also made purposive by reviewing the profiles of all participants. Yin argues that snowball sampling "can be acceptable if the snowballing is purposive, not done out of convenience" (Yin, 2011, p. 89). A total of 21 interviews were conducted synchronously using Whatsapp and, asynchronously, using email. Evidence shows that internet-mediated interviews using digital media is valuable particularly when face-to-face interviews are not feasible due to distance or inaccessibility (Hewson, 2014; Hewson et al, 2016). Consistent with the observations by Amri et al. (2021), asynchronous interviews were preferred by most of my research participants, which I believed maintained their anonymity while allowing them sufficient time to respond to the research questions. The interviews were enriched and complemented by the policy document review. Document review and analysis in qualitative research is an important yet under-utilised method of data collection (Hani, 2021).

3.4 Research Instruments

The higher education documents were selected based on their relevance to the study and the research questions. It was important to select documents that included references about key themes such as female participation and access, EdTech, and the overall higher education governance in Afghanistan. As indicated earlier, the documents included the draft higher education strategic plan, operational and technical papers, assessment reports, and a series of regulations and by-laws related to higher education mostly compiled in the last ten years.

The research interviews were guided by semi-structured questions that were shared in advance with each participant. The interview questions were tailored for three distinct groups

of policy-makers, academics and female students (Appendix 2). The policy makers received 13 questions and 10 questions were given to the academics while the students received 13 questions. The questions were designed such that they could be used in both synchronous and asynchronous interview formats, with some being exploratory in nature to generate responses from the participants with sufficient details. The data gathered in Persian (Farsi) through either of the methods was translated and transcribed into English prior to coding.

3.5 Data Analysis

The research data was analysed using thematic analysis, following a sequential process similar to the six-steps approach proposed by Nowell et al. (2017). The analysis started with reading the data, highlighting the first level codes using different colours. Coding is an essential step in data analysis, which can also influence credibility of the original data (Goodell et al, 2016). The codes were generated through a mix of deductive and inductive analyses. Ramandhan et al. (2021) point to 'deductive' as the process of emphasising themes from pre-existing theories while 'inductive' generates themes grounded in the data. The authors argue that balancing the two methods will "garner additional insight into topics not anticipated by the team or the framework" (Ramandhan et al., 2021, p. 3). The first level codes were reviewed and packaged into themes, cross-matching the information under each code.

The themes were generated mainly in two manners. Firstly, an in-depth literature review and policy analysis were used to distil a shortlist of key themes. Secondly, a review of the information gathered during the interview process led to the refining of the list and generated new themes which emerged only in the context of specific feedback for this study. For instance, student agency, motivation, and teaching readiness of the academics using EdTech was identified as a recurrent theme across most participant information. Data and notes were highlighted with the initial codes marked with different colours. The codes were carefully reviewed and categorised under five main themes – each discussed in Chapter Five - that reflected the essence and aim of the study, the existing literature relevant to the research questions. To strengthen the analysis, I adopted data triangulation by comparing the results of the interviews with the document review. Finally, I implemented a data triangulation process by comparing the results of the interviews with the initial results of my documentation review, which helped ensure my analysis would be both comprehensive and nuanced (Ranandhan et al., 2021).

3.6 Researcher's Positionality and Reflexivity

This study was undertaken with full cognisance of how my own values, biases and position vis-à-vis the subject and my interview subjects could impact the results. I have attempted to mitigate the impact of my own positionality through self-reflection and reflexivity in every state of this project. This is in line with the observations made by Greenbank (2003) and Lincoln et al. (2011) about reflexivity in educational and qualitative research. In designing this study, I was aware of my prior professional engagement in higher education in Afghanistan and with some of the participants, such as the former policy-makers. During the research period, I was not professionally engaged in supervising the implementation of any projects in higher education in Afghanistan. Building the course learnings on research rigour and reflexivity, I was able to reflect carefully on the choice of participant sampling, interview questions and the available literature to investigate the topic. Throughout the research process, I noted personal thoughts and reflections to ensure that these did not influence data collection. It also helped me ensure that any personal history or relationship with interview subjects would not colour my review of text material.

In addition to using data triangulation to bolster the validity of my findings as per Bans-Akutey and Tiimub (2021), I also employed respondent validation which, as noted by Maxwell (2013), can be an important tool in mitigating “positionality misrepresentation” resulting from the researcher’s own relationship with the sources of the data being analysed.

3.7 Methodological Limitations

The constant fluidity and uncertainty of the political situation in Afghanistan, affecting all walks of life, including higher education, was a significant limitation in data gathering. For various reasons, it was neither feasible nor appropriate or pertinent – particularly with a view to the context-sensitive issue of female participation - to contact the current 'interim' leadership of the Ministry of Higher Education that assumed this role following the regime change in 2021. However, prior contacts with the former policy-makers that played a central role in the higher education reform helped me in gathering critical inputs for the research. It is understood that lessons and experiences learned from the most recent years of higher education can be instrumental for future policy implications and reform, despite the fluidity of the situation in Afghanistan. Travel limitations to the country did not allow face-to-face interaction with the participants while some of the participants such as the policy-makers had already left the

country. However, as noted earlier, digital and internet-mediated methods have become the game-changers in research. Participant responses revealed that remote and asynchronous interviewing enabled some of them, as noted by Thurnberg and Arnell (2021), to express themselves more freely.

3.8 Ethical Considerations

The research proceeded following approval of the ethics clearance application by Oxford's Central Research Ethics Committee (CUREC). The CUREC application process provides clear guidelines on ethical considerations for the research. These guidelines include preparation and review of the sample research questions, voluntary informed consent by the research respondents, oral consent script, and participant information sheet. Each participant received a synopsis of the main aim of the study. Due diligence was exercised in recruiting and seeking the consent of the female participants, given the overall sensitivity of the current environment. Research participants have been anonymised and measures to ensure confidentiality were outlined in the CUREC application and conveyed to the participants. Anonymity and confidentiality are important ethical practices in research (Cohen et al., 2018; Crestwell, J., & Guetterman, 2021). Considering that the research also employed document analysis, it reduces, as observed by (Hani, 2021), ethical concerns since documents tend to be largely and already accessible.

Chapter Four: Findings

The findings in this chapter are presented in line with the research questions, convey the readings of the policy documents and narratives of the participant interviews.

4.1 Findings from the Policy Document Analysis

As part of the higher education development and reform in Afghanistan, a series of legal, technical and operational documents have been produced mainly by MoHE or in conjunction with other relevant government entities and international partners. Most of these documents were drafted or ratified during the ten years before August 2021, which marked a major political upheaval in the country. The implementation of these reform policies and processes were determined by the capacity, resources and political support within MoHE, the universities, the government and external technical and financial assistance. Capacity and resources have been limited in all development sectors due to the protracted conflict, endemic poverty, continued insecurity, and dependence on external funding. Political commitment was another significant element of executing any major development and reform agenda. Starting from a low baseline, the higher education sector witnessed a multi-fold increase in student enrolment in public and private institutions between 2002 and 2021. As stated by one of the former MoHE policy-makers interviewed for this research:

Higher education witnessed historic growth from 2002 to 2021, particularly in increasing enrolment. For example, the number of public universities increased from six in 2002 to 39 by 2021. In each provincial capital, at least one public higher education institution was established. During the same period, private higher education institutions increased from zero to 130 registered under the Ministry of Higher Education. By early August 2021 and prior to the collapse of the previous government, public and private universities accounted for a total of about 400,000 male and female students. (PM01)

In my interview with a former MoHE policy-maker and university chancellor (PM02), one example of a reform initiative mentioned in relation to the Kankor or national university entrance examination was the introduction of the quota system that gave positive discrimination to female entrants. Ten percent of the total Kankor seats were allocated to female candidates taking the examination, especially in STEM subjects. He stated the following:

MoHE implemented the quota system in the Kakor in some study fields, and later on, attempts were made to replicate it to more study fields. This policy provided an excellent

opportunity for female candidates to get into universities and higher education institutes. The quota system was one of the Ministry's reform policies to increase the number of female students. The system worked well and MoHE was trying to expand it to other study fields.

E-learning or E-education began as part of the Afghanistan government's Information and Communication Technology (ICT) policy as a ten-year, 2015 to 2024 evolving roadmap (Ministry of Communication and Information Technology, 2015). The ICT policy states that special attention would be paid to women and youth, marginalised and disadvantaged groups to address the social gaps and inequities. The policy advocates for increased enrolment of women in ICT courses at all levels, particularly at the university level. It emphasises the importance of ICT infrastructure, such as the internet, electricity and basic electronic devices as the fundamental elements of infrastructure (Ministry of Communication and Information Technology, 2015). The ICT policy proposes the establishment of community centres "to hold distance classes in a culturally acceptable manner" (Ministry of Communication and Information Technology, 2015, p. 20) particularly for women. Furthermore, one of the efficient approaches to increase female participation in higher education would be to expand the supply of EdTech facilities at the higher education institutions (Ministry of Higher Education, 2020d; Ministry of Higher Education, 20021b). EdTech expansion entailed also other means of delivery such as TV, radio, DVDs and printed materials.

MoHE embarked on updating NHESP in 2017 and the strategy remains a work in progress. The last revision of the strategy was led by MoHE with inputs from the relevant government ministries and international partners. The document has gone through extensive iterations and the latest draft covers the period from 2021 to 2030. Amongst other priorities, the strategy places emphasis on gender equity and modernising higher education through the integration of educational technology, employing online and digital platforms (Ministry of Higher Education, 2021b). The proposed range of improvements in the strategy includes, *inter alia*, efficiency and quality of internet connectivity, connecting universities with the global digital information banks, and increasing female enrolment from 28 percent to 38 percent within ten years. The strategy reflects the expansion of online and E-learning and the increased participation of female academics and students (Ministry of Higher Education, 2021b). The strategy calls for capacity and resources to expand EdTech for access purposes. In the words of one of the academic members and former director of Information Technology at MoHE, who contributed to the policy-level decision-making on IT and educational technology:

31 universities were successfully connected to the Afghanistan National Research and Education Network (AfgREN). This was a policy decision supported at the Ministry of Higher Education level, and a viable option to allow students, academics and staff to access digital educational resources and a high-speed internet connection. AfgREN was connected to regional hubs in Europe and South-East Asia.

In relation to sustaining some of the interventions initiated in the last few years, (A02) observed that "the current administration does not pay attention to or support such initiatives. The priority should be to safeguard female participation in higher education". Nevertheless, the policy-makers and academics interviewed for this research emphasised sustaining efforts to build on the fundamental achievements of the last few years and adapt the policy reforms despite an increasingly constrained environment.

As stated by the policy-makers (P01; P02), the proposed broad-level policy reforms such as those mentioned above would need to be guided through more detailed technical steps, sufficient resources and political commitment. It was not until the closure of universities during caused by the pandemic that online and digital platforms were given serious recognition. MoHE ratified a by-law on implementing the credit system to shift from the traditional semester-based structure. Although detailed in many aspects, the by-law does not make a specific reference to whether online teaching counted towards the students' final academic assessment (Ministry of Higher Education, 2020a). This issue was addressed in the by-law on E-learning (Ministry of Higher Education, 2020d) but fell short of implementation due to the heterogenous practices and methods across disciplines and universities, compounded by infrastructure deficits.

This policy review revealed a set of guidelines by MoHE on establishing, expanding, and utilizing internet and IT equipment across higher education institutions. These guidelines focus primarily on cyber safety and the responsible use of the available facilities by the students, academics and staff. The guidelines are outlined under the Law on Public Higher Education (Ministry of Justice, 2020). They do not include any specific designation on gender and women's access to the internet and IT facilities. Having reviewed the policy compilation of the relevant by-laws and guidelines by MoHE in 2020 (Ministry of Higher Education, 2020a), the Ministry had attempted to frame the public budgeting guidelines in higher education with consideration of the gender at public universities. While this was an important step forward to strengthen gender-responsive resource allocation, resources either fell short of the needs or were not distributed equitably to the universities.

In 2020, an assessment was carried out to measure the effect of a series of activities implemented at some of the key public universities to promote female enrolment (Ministry of Higher Education, 2020c). These activities were funded under the Higher Education Development Project (2015 – 2022), a World Bank project that was implemented by MoHE and universities (HEDP, 2015). The purpose of the assessment was to guide policy decisions and improve the implementation of female-focused interventions. One such intervention was the allocation of space for female students in the ICT centres at some of the public universities⁴ to encourage them to use the facilities.

In 2020, MoHE prepared a plan for online course delivery as the university campuses closed due to COVID-19 (Ministry of Higher Education, 2020b). Blended learning was later added to the plan as a flexible course delivery option with technical details that shaped the Blended Learning Training Manual (Ministry of Higher Education, 2021a). One of the aims of the COVID response plan was to roll out the Higher Education Learning Management System (HELMS) (Ministry of Higher Education, 2020a). Through HELMS, course materials were uploaded online for students to access asynchronously. HELMS became only partially operational, facing multiple challenges such as poor internet connection and capacity of the academics to run the system. The blended learning manual highlights the technical and social challenges of female participation in higher education and how online instruction can create flexible access avenues (Ministry of Higher Education, 2021a). It also mentions that:

Teaching online opens up new communication channels, many of which can help students who have traditionally been marginalised. Research shows that girls may be less likely to speak up in class, so they may benefit from backchannels – alternative conversations that can run alongside instruction – that encourage participation. (Ministry of Higher Education, 2021a, p.58).

In another effort, the Higher Education Gender Strategy was developed in 2016. It highlighted systemic challenges that impeded female participation in higher education (Ministry of Higher Education, 2016). The strategy points, in particular, to social and cultural barriers that influence female participation levels in higher education. Attritions in upper

⁴ ICT centres were planned at 12 public universities under the Higher Education Development Project (HEDP). The primary aim of the ICT centres was to provide the digital access to research, teaching and learning for students and academics (World Bank, 2015). ICT centres were monitored through a scorecard that included, among other criteria, access to the ICT centres by female students

secondary school, early marriages, distance and safety concerns particularly for female students were cited as some of the obstacles (Ministry of Higher Education, 2016). The strategy outlined policy and operational recommendations for addressing access limitations for female academics and students. However, there are no specific indications of the enabling role of educational technology in facilitating and improving female participation. This notion is only implicitly covered in the section on recommendations for infrastructure improvements (Ministry of Higher Education, 2016).

Moving on to the next section, the research was supported by empirical evidence gathered from the interviews. The interviews convey the historical patterns of female participation in higher education in Afghanistan, perspectives on policy decisions and their impact, access to and use of EdTech and the overall constraining environment for female participation in higher education.

4.2 Findings from the Interviews

This section begins with the reflections shared by the interview participants on the existing policies governing higher education, particularly female participation and educational technology, as described in the previous section. The following sub-sections present findings of the interviews. These findings are discussed around key themes that guided the narrative of the interviews.

4.2.1 Reflections on the Higher Education Policies

Research participants shared their reflections on the influence of policies at the ministerial and university levels on female access and participation. In the words of one of the academics from a public university, "One of the critical policy decisions to promote female participation in higher education was introducing and implementing the quota system in Kankor to allow more female candidates to participate and compete for university admission seats. (A07). Introducing the quota system in national higher education was an affirmative action to facilitate participation of more girls in the Kankor especially in STEM disciplines (PM01). The quota allocation allowed more girls to compete for entry into STEM disciplines that, in a typical setting, require the development of skills in applying educational technology. However, systemic reforms, especially those focusing on girls and women, need to be streamlined and

begin with at the secondary education level (PM01). According to one of the policy-makers and a student interviewee, effective exposure to technology for learning should take root at the pre-university levels. This demands collaboration between the MoHE and other government entities involved in education service delivery. As stated by one of the female students, "In my view, reforms should start at the level of the Ministries of Education and Higher Education. Opportunities and facilities will encourage students to work harder and thrive" (PM02; S02).

4.2.2 Historical Patterns in Afghanistan Higher Education and Female Participation

As stated by the policy-maker (P02), there is a range of factors affecting female participation in the higher education in the country, namely security, instability, extremism, lack of proper facilities for female students in universities and, in some cases, the low capacity of parents' education level. In some families, preference for investing in the male members as the future breadwinners of their families has meant that girls have been side-lined and less attention has been paid to them. In the words of one student (S02) "In general, boys are given more opportunities even in some families and beyond that in this context."

Reduced student enrolment and, more specifically, female enrolment and participation are also the manifestations of a changing economic, social and political landscape since last year. Increasing limitations on women's mobility and participation in society have had a discouraging and restrictive impact on girls' aspirations for higher education (PM01; PM02). Most academics and students stated that educational technology, in such instances, can provide better alternatives to in-class teaching and the possibility of better access and participation. As noted by the academic (A08):

We live in a country with a changing situation, which affects the reasons and motivations for enrolling in universities. The number of students in my classes and at my university depends on the socio-economic situation of the country and each family. Since last year and the political changes, classroom enrolment has reduced on average from 50 students down to about 25 with a limited number of girls.

Some academics pointed to the importance of educational technology to enable female students to continue with their university education to address attritions and reduce the impact of mobility barriers. One of the academics who is teaching at a private university shared her reflections as follows:

Before the new government took over in Afghanistan last year, the number of students was high, but now, there is a lot of student loss in every private university. One of the reasons is financial constraints and the lack of prospects for employment. Overall, the number of male and female students has decreased. The ratio of female students has dropped significantly in every class. Online and hybrid classes can possibly reduce this disparity and gap and help especially female students. (A01)

Interviews also showed the varying engagement levels of the universities to address some of the endemic patterns of female participation. Despite a centrally managed public higher education system, universities have acted differently at various time junctures and in response to different events (A03; A02). University-level initiatives that emanated from some of the Ministry-level decisions varied in magnitude and effectiveness. The geographical location of students and universities also influenced the nature of initiatives and female participation, driven equally by the social setting and capacity of the respective institution. Some interviews talked about the level of engagement and initiative at the department and individual academic level in promoting female participation and elevating the socio-economic importance of higher education. As an example, one interviewee stated:

I have done my best to encourage female participation, specifically at the university where I am teaching. I emphasise the importance of modern technology in expanding student access and reach. Unfortunately, no targeted initiatives have been undertaken to promote female participation at the university management level. (A04)

Another academic explained that "specific attention has been paid at the university and academic level to promote female participation such as organising social and cultural programmes and nurturing student creativity, competitions and others"(A07), however, these such initiatives have not been widely applied across most institutions. The significance of digital platforms and the alternative models of instruction to facilitate student participation, particularly among female students, was elevated during the COVID-19 pandemic. This is explored in the following section.

4.2.3 COVID-19, Educational Technology and Female Participation

As noted in the earlier sections of this chapter, COVID-19 caused the closure of university campuses globally for in-person instruction. Academic members and female student respondents shared their experiences of online and distance teaching and learning during the pandemic. Most of these reflections showed the varying success and challenges in running and

accessing the digital platforms through educational technology to ensure continued course delivery. According to one academic:

We used to conduct E-learning during the pandemic. The main problem was the lack of electricity. This was due to the destruction of electricity pylons in 2020 at different intervals and in different locations. Sometimes, students could not get their electrical devices charged to attend online classes. I know that our female students were busy with housework; nevertheless, their attendance was more regular than the boys. (A01)

Two academic members, (A03) and (A05), shared their individual experiences of course delivery during the pandemic, the steps taken to ensure continued class instruction, and what was done to specifically support female students. (A03) mentioned that he was leading the E-learning committee at his university. According to these university academics, in response to the closure of universities due to COVID-19, a concept for online teaching with three categories was developed. The first category was for students who had regular access to the internet and instruction was carried out on Zoom or Google Meet. The second category was for students that had partial internet access. Teaching was conducted via Google Classroom, while Whatsapp and Telegram were used to communicate with the students and answer their questions. The third category catered to students, particularly females, who did not have internet access. Course materials were printed and distributed to them through the student representatives. Particular attention was given to the delivery of materials, including recorded module instructions on DVDs, to some female students who could not travel.

According to (A03), female students showed motivation to take part in classes regularly where the internet and other necessities such as electricity were available. (A05), who teaches at Kabul Medical University, stated that she undertook the necessary measures to ensure the continued delivery of classes during the COVID-19 pandemic, using different digital platforms such as Google Meet, HELMS and Google Group. Course materials were also uploaded on Google Drive and Telegram. Regular communication was maintained with all students, particularly girls. On lessons learned, one university academic shared his observations as follows:

I can say that about 60 to 70 percent of the students were able to connect with the academics and participate in online classes using digital platforms. The pandemic period was an opportunity for the academic society in Afghanistan, including the teaching staff and students, to learn how to use educational technology better. We aimed to ensure that students were in communication amongst themselves and with their tutors. I can say

confidently that female students demonstrated more interest in online classes, at least, until the situation changed last year due to the political upheavals. (A07)

Student interviewees also testified to varying experiences of online learning and attendance, although some of the elements emerging from their responses reflected common issues across all universities (S01; S02; S03). (S01) and (S02), for instance, confirmed to have attended online classes during the pandemic, stating that course delivery was online; however, this was progressing very slowly. Despite universities' efforts, poor internet and electricity shortages, as cited repeatedly, were some of the main barriers. Notwithstanding these barriers, the students indicated that the pandemic led to important lessons learned and encouraged them to familiarise themselves with innovative and alternative means of accessing education.

Student interviewees also cited additional technical and systemic challenges that hampered the smooth flow of online course delivery and attendance. In the words of (S08), not all universities in Afghanistan were able to implement online teaching when campuses closed in 2020. (S08) continued to remark that a digital link to online classes was shared with students to access their studies as the university closed. However, the connection experienced technical failures, hampering synchronous teaching. Student (S07) pointed out receiving only one semester of online teaching using the Moodle platform. The student also noted the economic barrier to access during the COVID-19 crisis experienced by some of her peers, stating that "Attendance dropped due to the economic conditions of some of the students who could not afford internet or electronic devices." In the words of (S06):

We used any available facilities provided by the university or our means to access the online course instruction during the pandemic. Specific technical problems in using the digital platforms were experienced, particularly in our second semester. For instance, creating a personal password to use HELMS interrupted the flow of access to course materials. The internet connectivity was, obviously, another challenge. In my view, the pandemic and the challenging changes since last year have increased the need for educational technology and taught female students how to make use of alternative pathways to being connected to higher education under such circumstances.

Expanding on some of the above reflections and analysis, the following section discusses the limitations of infrastructure in digital and educational technology and participation from the respondents' perspectives.

4.2.4 Infrastructural Readiness

One of the recurrent themes highlighted in almost all observations from the policy document analysis and interviews was the deficit in infrastructure. During my work on higher education in Afghanistan, emphasis by higher education policy-makers and university administrators was placed on facilities, mainly dormitories for female students. Other initiatives included IT facilities specifically for female students. As observed by policy-maker (PM02):

In addition to the low capacity of the universities in accommodating female students in the dormitories, the insufficient budget allocation to the provinces to provide food and health services and professional female administrative employees to manage the dormitory affairs counted as some of the reasons. (PM02)

The policy-makers reiterated the importance of EdTech infrastructure, reiterating how information technology can facilitate women's access to higher education inside the country as well as connecting them with available opportunities outside. However, deficits in basic infrastructure hampered some of these opportunities. For instance, the respondent (PM01) stated that one of the problems based on their experience in Afghanistan in the roll-out of E-learning across universities was insufficient internet bandwidth and electricity supply. According to academics (A01) and (A03), E-learning in Afghanistan was far behind compared to many countries in the region because of poor infrastructure. Pointing to the problems in the ICT infrastructure at universities, (A02), a former lecturer at Kabul University mentioned that "We used online learning at Kabul University but did not achieve very tangible results because of the poor internet connectivity. Adequate internet would have enabled connectedness and the adequate roll-out of our E-learning initiatives in which students could easily participate." (A03), who is leading the E-learning committee at a public university, mentioned that:

The unavailability of the internet in most parts of the country seriously constrained students' capacity and access to educational technology. The challenges varied at different levels. Third and fourth-year students who had already been exposed to some form of educational technology on the campus were more familiar with online and hybrid teaching. First and second-year students, some of whom had come from far away districts and provinces faced more serious challenges in absorbing online education. My take on the overall student ability to learn from and use educational technology is that girls were more focused, participatory and motivated to attend online classes, despite some of the particular challenges they face.

The female academic (A04), who teaches Computer Science at a public university, mentioned that female students demonstrated resilience and exercise their agency and initiative

to avail themselves of any available technological means to access their lessons. According to her, this is an experience she observed amongst the Computer Science female students despite the relatively greater challenges that they faced compared to the male students. Another academic member from a private university mentioned the various factors, including the internet and electricity, that affected female students' accessibility to educational technology for participating in learning programmes (A08). The academic added that "The lack of basic infrastructures such as the internet and electricity added to the challenges that female students were facing in most institutions." The academic cited approaches such as uploading course materials on a portal to be accessed by students if synchronous online teaching is not feasible or is interrupted due to the shortages of electricity and internet dysconnectivity.

As mentioned by some of the academics during the interviews, the low levels of online teaching or the application of educational technology by the universities have also been associated with the inadequate financial resources made available by the government. One academic member mentioned that financial resources provided by MoHE were often short of meeting some of the basic needs of the university, particularly the digital devices and equipment (A06). In supporting female students, (A08) called on non-state actors to contribute to girls' education and finance the required facilities, stating that:

Educational institutions and telecommunication companies should try to facilitate access to the internet and connectivity for the students, particularly female students who may wish to study remotely. The same support is expected from the local providers who can afford to contribute to financing the necessary facilities for universities. Education is a religious right of women that should be upheld. Female academics and students should be provided with overseas scholarships and fellowship opportunities. The current administration must be convinced that education is an equal right for men and women.

Student respondents reiterated the IT and digital infrastructure deficits that rendered participating in remote learning or using educational technology a problematic task. They stated that class attendance was becoming difficult because of these problems and downloading the course materials or even submitting homework could not be easily and quickly done due to the poor quality of the internet (S10; S11). Other students cited the lack of proper guidelines on using E-learning or other digital platforms, especially during the closure of universities for in-person attendance (S01, S04, S07). These students pointed to the everyday challenges of infrastructure, accessing and affording electronic devices, and internet connectivity expressed by most female students, demonstrating the importance of support at the institutional and family

levels to facilitate the platform for participation and learning. They reiterated the critical role that adequate infrastructure can play as an enabling and catalytic factor for access to higher education when alternative streams for participation become relevant. In the words of a female student:

Internet accessibility was a significant challenge. Personally, my problem was also poor internet connectivity. Online classes were meant for both boys and girls. Female students with better economic backgrounds have had better access to E-learning using their computers and smartphones. (A03)

Student respondents also cited the lack of proper guidelines on using E-learning or other digital platforms, especially during the closure of universities for in-person attendance (S01, S04, S07). Similar reflections were shared on the readiness of academics to adjust to the new teaching modality (A10, A11). Such reflections from the students and academics showed the centrality of academics' capacity as a catalyst and the student 'agency' to benefit from educational technology in delivering and accessing higher education.

4.2.5 *Teaching Staff Capacity and Student Agency*

Interview narratives of academics and students pointed to the importance of capacity and agency exercised by the university academics and students, respectively. The research observations revealed that the optimal use of the available educational technology was possible where the academics showed capacity and students exercised agency under the given conditions. According to (A08), "We pursued our initiatives and replicated some of the approaches followed by other universities in integrating digital technology in course delivery." She mentioned that special sessions were organised to encourage and expose students, especially girls, to the benefits of using digital technology for learning. As indicated by (A08), it was encouraging to see that some of these activities continue despite mounting constraints. According to (A05) who is teaching at Kabul Medical University:

Most students come from provinces with limited access to digital facilities such as computers and smartphones. We initiated a one-week course to familiarise them with these tools. I have formed and participated in various technical committees to facilitate distance learning for male and female students. A teaching hall was dedicated at Kabul Medical University in which course materials for online delivery were produced. At all levels of my university, efforts were made to encourage students to familiarise themselves with digital technology for learning purposes, mainly because modern technology is a fundamental part of medical sciences.

Some academics responded that the extent of efforts and individual agency demonstrated by students despite various barriers they encountered was crucial in progressing under the changed circumstances. For instance, academics (A01) and (A02), mentioned obstacles facing female students and compared the situation with other contexts. In their words, students who could afford to attend the university and cover the cost of supporting materials such as the internet and electronic devices were engaged either in part-time jobs or received financial support from their families. Affording basic digital devices or the internet has become a financial burden that cannot be met easily. In their words, this affected not only female students in private institutions where tuition fees are levied but even the basic costs associated with studying at public universities. Participants remarked that the status quo characterised by poor quality and accessibility of the internet could limit the student agency and the capacity of instructors. One policy-maker noted that the resilience and agency realised under challenging conditions and a constraining learning environment will support each female student's aspirations and desire to access and participate in education (PM0). Along the same lines, one academic also stated as follows:

We live in a modern era, and countries continue to equip themselves and their educational systems with the technological means to cope with the demand for new knowledge. Despite increasing restrictions, girls show more commitment to participating in higher education. Most universities have established online portals and students have individual accounts to access course materials. My experience has shown that female students at my university exercised their agency and tried to utilise whatever digital learning platforms or devices were available. (A07)

Reflecting on their teaching capacity, students (S01; S08) mentioned that instructors accustomed to traditional teaching and pedagogy fell short of proper implementation of EdTech for remote teaching and needed to enhance their skills in this area. Lack of sufficient proficiency in English language was also cited as having hindered adequate use of EdTech platforms by academics and students as English is the primary language of technology in most cases. Some students mentioned that not all digital materials were made available in the local languages.

According to the policy-makers, the universities in Afghanistan began to practice student-centred learning only in recent years; however, this was not a consistent practice and pattern across the institutions. The traditional teaching and curriculum implementation methods could not cope with the need to provide hybrid or online delivery in keeping with today's demands. As mentioned by (S03), "In general, an old curriculum is implemented in our

university without much revision in structure. However, our tutors try to introduce new elements in teaching by using digital technology, their capacity and the training." (S08), a private university graduate, stated that most of her tutors followed a didactic approach to teaching and that such an approach could not be responsive to the implementation of alternative means of teaching such as E-learning. This was due, in part, to the lack of experience in and exposure to the modern and student-centred instruction. The academics exposed to the new teaching methods and using educational technology received more positive feedback from the students on their teaching practice. This was noted in the information from some of the research participants.

The students' observations during the interviews also unveiled the influence of the demographic, geographical and social backgrounds on the student agency, initiative and motivation in adopting the new learning methods. (S05), (S06) and (S08), for instance, mentioned that contrary to other digital platforms on which female students did not feel socially comfortable, HELMS was preferred as a suitable platform for communication and accessing course materials. The students also mentioned that they found it easier to communicate via WhatsApp and Telegram with their peers and instructors. Access to digital communication was relatively better for students living in urban centres. One student participant mentioned that:

Most male students enrolled in IT and Computer Science classes who originated from remote districts were challenged to use even some primary digital tools such as smartphones or computers. On the contrary, most of the female students in these programmes came from the urban centres and are familiar with using digital tools: factors that can help their participation. (S06)

The above participant information demonstrates how prior exposure to the teaching experience of new methods, student agency, the environment within which the agency is shaped, and individual capabilities and motivations influenced participation through EdTech.

4.2.6 EdTech and Higher Education: Constraints and Social Relevance

All research participants emphasised that the social dimensions of female participation in higher education in Afghanistan are manifold. Female students, university academics and former policy-makers shared their observations on the historical background of women's education in Afghanistan, the challenges and opportunities resulting from the sociocultural landscape in Afghanistan, and what is required to mitigate and navigate through the prevailing difficult circumstances. The policy-maker (PM01) emphasised the importance of efforts by all

key stakeholders to unpack the underlying barriers to female participation in higher education. PM01 noted, as follows, the importance of reconciling female participation an all levels of education with other prevailing religious values in the Afghanistan society:

The real face of Islam needs to be presented. The most crucial factor is to eliminate the root causes of extremism. Unfortunately, there is a misunderstanding between schools (modern education) and *madrassas* (Islamic religious schools). They consider themselves against each other. Regrettably, in the last century after the establishment of modern schools in Afghanistan, less attention was paid to the harmony between the two and to complement rather than opposing each other.

Participants alluded to the societal and family issues that exposed women to barriers in educating themselves. They mentioned that considering some of the mobility restrictions and safety concerns, educational technology could serve as a valuable platform for bringing education to women virtually and from the distance. On the value and importance of women's higher education, the academic (A03) noted that "Educating a woman equals educating a society". Most of the academics interviewed stressed the need for more awareness, guidance, and capacity to maximise the use of educational technology in delivering higher education to female students. As mentioned by (A07), women must play an active role alongside men in society, and this can be achieved by educating them and expanding access to higher education using technology. Some participants voiced their concerns regarding the heightening level of restrictions imposed on women's mobility. As stated by one of the academics:

In the last twenty years, attention has been paid to female participation in higher education, which included upgrading the qualifications of female academic members and increasing the enrolment of female students. With the increasing limitations for women since last year, the situation for female academics and students has deteriorated. MoHE recently rejected some of our female members who were granted overseas scholarships. With these restrictions, EdTech will be pivotal to facilitate access. (A08)

Students highlighted their individual, peer, family and societal challenges in continuing their education. As stated by (S01) and (S02), some parents showed preferential treatment towards male family members. In such conditions, the opportunity for girls to progress along the education path decreases. However, they mentioned that accessing education either in person or online is supported when family support is maintained.

As mentioned by some other respondents, these factors included early or forced marriages, lack of family support in some cases, poverty, and community perceptions of girls' education. On poverty, (S09) stated that "The loss of jobs of my parents has deteriorated our

economic condition. I can barely afford to pay my university tuition fee. Traveling daily to university has a cost. If all classes were offered online or in hybrid, I could minimise my daily commute, associated costs, and safety concerns. Other students (S03; S06; S07; S10) observed that many girls could not enter university after finishing high school or would drop out early. When highlighting the other challenges, students recommended educational technology as a means of accessing education, provided that the social setting and conditions were conducive and supported their continued participation in and access to higher education. (S08) mentioned that:

Female students often feel demotivated when there are unfairly compared with their male peers. The mentality that women are meant to take care of the housework should change. A good way of looking after the housework and accessing classes can become possible only if we can connect to study hours remotely and flexibly.

The above observations from the interviews form the testimony of the research participants regarding the social barriers to accessing higher education and how educational technology could serve as a relevant and enabling factor in the Afghanistan higher education system. Research participants also shared their views on the overall merits of educational technology in today's world and perspectives on what more must be done to address any remaining barriers. The following section highlights these reflections covering the research participants' general and multifaced views.

4.2.7 The Overall Importance of EdTech and Women's Higher Education

Student interviewees (A01), (A03) and (A04) noted that educational technology provided the future pathway for women in Afghanistan. In their words, through digital literacy, women and girls could be empowered and connected to the rest of the world, contributing to the global dialogue, exchange, social and economic independence by acquiring knowledge and skills. Further remarks noted that contemporary technology could facilitate participation, but only in the presence of political commitment, meaningful planning, adequate resources and social support for female students to afford technology for learning. The academic (A08) reflected on the comparison between different countries and the role of non-governmental and international stakeholders, stating that:

Non-governmental and international organisations that work on supporting the right to education, pressure and lobby for women's right to education at all levels and provide financing to equip the teaching and learning mechanisms with modern technology to facilitate access. Integrating digital technology as a compulsory teaching aid across the

universities may also be pertinent. There is a difference between the developed, developing, low-income, and fragile countries in experiencing educational technology.

Statements by the academics and students also posited the role of EdTech as a game-changer in many ways, indicating the experience gained during the pandemic. They asserted that the changes in Afghanistan in nearly the past one year placed EdTech as an effective option and means of retaining and supporting female participation in higher education. Some of the academics interviewed witnessed female students' effective engagement and participation during the closure of university campuses for several months during COVID-19. They termed this an encouraging sign of the resilience and agency by the female students to use any available options and opportunities to continue their education under challenging circumstances. The experiences of some of the student interviewees also pointed explicitly to what models of alternative pathways could be more useful and reliable according to the social and geographical locations of the students. (A05), for instance, recommended the hybrid model and how this proved to be a more practical route to access her university in the North-Eastern region of Afghanistan, where mobility is often hampered due to distance, remoteness to educational institutions and difficult terrain. Nevertheless, she reiterated other binding constraints such as access to basic technological devices, internet and electricity.

Some of the student participants, such as (S06), believed that nurturing female academics and student engagement in ICT research would lead to in-depth understanding of educational technology and serve as the source of generating knowledge, especially about the role of EdTech in education and its catalytic influence on maintaining and expanding participation. For instance, other student participants (S04) and (S08) emphasised the instrumental role of digital technology as an essential buffer to challenges of participation in higher education. In the words of (S08):

Some girls get married during their university years, which can sometimes make it difficult for them to attend classes in person. The pandemic and safety concerns were other issues that made in-person attendance impossible and risky. In all these situations, digital and online platforms using educational technology can be instrumental.

This chapter presented the empirical findings of the research based on interviews with key participants of the higher education system in Afghanistan as well as the review of policy documents developed in the last few years with any reference to educational technology, and

female access and participation. The findings point to some of the policy-level and technical interventions adopted in the recent few years to address the gender gap, maintain and facilitate girls' access and participation, strengthen EdTech for teaching and learning purposes and utilise EdTech to maintain and support participation in higher education, especially for girls. Closure of the university campuses caused by COVID-19 stressed critical role of technology in education from the access and participation perspectives. The findings reveal the measures adopted across a range of public and private universities to rely on technology to facilitate access to learning. The findings also unpack the remaining challenges and constraints that are multifaced in nature. The discussion around what has been done so far and what challenges and limitations remain to be addressed in improving female participation in Afghanistan higher education including through EdTech, address the two central research sub-questions. This discussion emanates from analysing the empirical findings in this chapter and leads to the themes structured and discussed in the following chapter.

Chapter Five: Discussion

This chapter discusses the findings outlined in Chapter Four. The discussion engages with academic literature to support the findings and is presented along five themes that have emerged from the literature review and the research.

5.1 The Multifarious Challenges and Benefits of EdTech

Contexts facing the manifold challenge of female participation and access to higher education take centre-stage in this discourse due to the potential role of EdTech in the participation and access imperatives (Khalid, 2020; Willems et al., 2019; Castro, 2018). In discussing challenges for the optimal use of EdTech in Afghanistan, findings in the previous chapter testified to the centrality of technology as an alternative means of participation, especially for women. The study by Sadikin and Puwanto (2018) regarding innovations in education delivery signifies the flexibility and adjustability that technological platforms can provide in education. The authors remark that E-learning, as an element of EdTech, can overcome the daily challenges of higher education, such as the scarcity of space, access, and infrastructure limitations.

Perspectives presented in the previous chapter are essential in understanding the overall conditions of higher education in Afghanistan at different historical junctures and how these patterns have influenced or will influence female participation. Although the notion and the historical patterns of female participation were explained more generically, some of the respondents reflected on the role of educational technology in today's higher education and how, given the limitations and challenges, digital alternatives can facilitate access. Some of the prior research confirms the range of challenges that complicate the application of technology in higher education. Hashemi and Kew (2021), and Adedoyin and Soykan (2020), for instance, note that the lack of basic facilities such as the internet, communication and technology infrastructure, pedagogical capacity of the teaching staff and study-specific barriers become some of the recurrent constraints in contextually similar situations.

EdTech is a relatively new concept and practice in the Afghanistan higher education system (Hashemi, 2021). As indicated in the previous chapter, the last few years of the sector's development witnessed the promulgation of a series of legal, technical and operational

documents, each reaching a different implementation stage. One such development in Afghanistan was efforts to introduce and recognise EdTech in higher education by investing in hardware, software, E-learning and other digital media. However, in any context, translating policy into action demands specific prerequisites for full realisation and impact (Antonio & Tuffley, 2014). These prerequisites are wide-ranging and are even more so in a context marred by conflict, fragility, political instability, socio-economic challenges and competing priorities (Ali et al., 2018).

The COVID-19 crisis led to new challenges and opportunities. One challenge that significantly affected higher education was the 'digital divide' as higher education institutions relied heavily on EdTech for online teaching (Mathrani et al., 2016). Mathrani et al. (2016) and Laufer et al. (2021) point to the digital divide as the inequality of access to digital technology, with the aim of teaching and learning in the context of education. Arnold and Basset (2021, p. 37) describe that “faith in technology to expand access must be coupled with equity and quality considerations and the implications of an expanded digital divide within and across countries.” In line with the statements from several respondents especially the policy-makers during the research, the pandemic and subsequent temporary physical closure of universities due to the political turmoil in 2021 revealed a host of structural problems. Nevertheless, most of the participants, despite encountering repeated implementation issues, stressed that EdTech was considered the only practical alternative to accessing higher education when physical mobility, access and other restrictions challenged continued participation. While Laufer et al. (2021) point to the contexts in which participation and access are influenced by structural inequalities and the complexities involved in using EdTech, Willems et al. (2019) reiterate the use of EdTech and, more specifically, electronic access to course materials as an efficient alternative model in situations when face-to-face teaching and learning becomes limited due to emergencies or other events.

5.2 Policy, Regulatory and Institutional Influences

As noted by Olson-Strom and Rao (2020):

National-level policies can also successfully encourage diversity through affirmative action or quota systems. While these can be practical tools, they do not always have the intended effects. It is important to ensure, when formulating such policies, that they will

not further disadvantage one underrepresented group in favor of another, but rather offer more opportunities to all under-represented and vulnerable groups. (p. 278)

Olson-Strom and Rao (2020) also argue that higher education institutions significantly influence participation, access and learning in the way that institutional-level decisions and actions are implemented. BurrIDGE et al. (2016) recognise the direct impact of policy-making on women's higher education in Afghanistan. The review of the policy documents and findings from interviews provided important testimony to the influence of such policies. While most of the policy and technical documents were prepared centrally, the practice across universities in the implementation of EdTech was not uniform. This was because either the policies were not effective and meaningful, or implementation fell short due to a lack of resources, capacity or political commitment. The shortcomings in state-driven past and current policies were critiqued by majority of the research participants, indicating how EdTech was shaped and female students, in particular, were affected. As described by UNESCO (2020b), "States have a fundamental responsibility to guarantee the right to higher education" (p. 37). In supporting female participation, including through EdTech, central and institutional-level policies should go together with the needs of the beneficiaries, including the geographical and socio-cultural norms (Mathrani et al., 2016). Altbach et al. (2010a) argue that even aggressive measures adopted centrally or sometimes locally cannot erase deep structural and prevalent issues in each context.

Most recent years witnessed a degree of concerted efforts at the national policy level to promote EdTech particularly in higher education in Afghanistan. These efforts were mostly inter-ministerial as the provision of the internet as a critical element in EdTech fell under the purview of other government entities (Khalid, 2020). Citing other countries, Netswera et al. (2022) describe that several other countries such as Ethiopia and the UAE were compelled to develop new policies to guide and regulate the use of EdTech for virtual teaching due to the pandemic. Policy-makers interviewed for this study attributed the initial steps in EdTech in Afghanistan higher education to streamlining some of the procedures in the regulatory environment, such as the official recognition of online credits, particularly as the pandemic closed the university campuses. However, some academic respondents mentioned that the continued lack of explicit and official recognition of online teaching was demotivating and a barrier. Similarly, on positioning women in higher education, Palomares-Ruiz et al. (2020)

argue that any policy changes to enable participation in higher education should not handicap women's access to the system.

Information mainly from the university academics also highlighted the lack of sufficient coordination between the centrally driven policy instructions and the universities in adopting virtual platforms when universities closed for in-person teaching. In a fragile and controversial context such as Afghanistan, higher education provision mainly for underrepresented categories such as girls and women, as described by Meyer et al. (2013), becomes a scarce commodity that calls for diligent policy and practice. Cronje (2016) and Wagner et al. (2008) observe that any policy and regulatory changes in a higher education system, mainly when EdTech is involved, require close consultation with students, instructors, administrators, technology providers, future employers and accreditation bodies.

5.3 Infrastructural Readiness

Respondents consistently cited the lack of adequate infrastructure such as the internet, access to digital devices and regular electricity as one of the main barriers to utilisation of EdTech for learning. The same challenge was cited in several documents that were reviewed for this study. The national ICT policy for Afghanistan (2015 – 2024) points to infrastructural deficits as a challenge to extending the use of ICT in education and other sectors (Ministry of Communication and Information Technology, 2015). Technological infrastructure comes in the form of both hardware and software tools (Ali, 2020). Insufficient and inadequate access to technology in education is part and parcel of the overall infrastructure barriers. As described by Sabzalieva (2019), “A common issue across Central Asia and Afghanistan is aging infrastructure with education buildings that are not fit for purpose” (p. 15). There are also disparities between the rural and urban settings. The former is often characterised by more complex challenges of access to basic services such as electricity and the internet (Islahi & Nasrin, 2018; Hashemi, 2021; Willems et al., 2019). Altbach et al. (2010b) also confirm that digital disparity has geographical and proximity dimensions, mainly the rural-urban, that influence the extent of access to internet-mediated learning.

Some students indicated that they could not afford digital devices such as smartphones or computers due to their poor economic conditions. As these devices were critical for distance and virtual learning, this condition became a binding constraint for participation in the class.

Besides, the cost per unit of internet supply in Afghanistan is much higher compared to the countries in the region (Ministry of Communication and Information Technology, 2015). In their study of digital transformation in higher education, Ghavifekr and Fung (2021) purport that financial constraints pose a significant barrier for students to access technological means, both software and hardware. Students end up struggling to meet the fundamental necessities of EdTech infrastructure to access learning.

This study demonstrated the gender divide in accessing EdTech in Afghanistan: an observation also made by Hashemi (2020) and Di Pietro et al. (2020). In their interview statements, the policy-makers recognised that the higher education system in Afghanistan suffered from a lack of capable and responsive EdTech infrastructure. The public sector, including higher education, received a minimal budget from the Ministry of Finance that fell significantly short of equipping higher education with the basic needs of modern technology or addressing the specific needs of female students. Most of what was financed in the sector, including EdTech facilities, came from external donor financing (World Bank, 2015). As in many other countries described by Netswera et al. (2022), the increasing and rapid demand for EdTech during the closure of university campuses caused by COVID-19 unveiled deep infrastructure gaps and caught the Afghanistan higher education system off-guard. These resource and infrastructure constraints perpetuated the gender divide.

5.4 Socio-Economic Factors and Influences

As noted in the previous chapter, the pervasive and stringent cultural and social norms in most parts of the country determined the pattern of female participation in higher education in Afghanistan (Hayward & Karim, 2019; BurrIDGE et al., 2016). Most of the female respondents spoke of the social challenges in the way of participation in higher education. Pherali and Sahar (2018) assess the impact of socio-economic disparities in determining the pattern of access to education in contexts of fragility and inherent conservative traditions such as Afghanistan and highlight gender as an imperative indicator of access and participation.

Research data revealed the societal and family attitudes that influenced gender balance in higher education. According to two policy-makers, there is a need for critical social and behavioural change towards female participation, particularly in the higher levels of education. They emphasised that any policy toward supporting the role of girls and women in Afghanistan higher education requires a comprehensive approach and understanding of the inherent social,

cultural and economic circumstances. Countries with socio-economic similarities to Afghanistan demonstrate some of the same practices that influence female access and participation. For instance, in their study of the gender digital divide in developing countries, Antonio and Tuffley (2014) agree with the need to change social attitudes and behaviours to allow for more gender equity. Despite the multitude of challenges, female students acknowledged the potential role of technology in facilitating distance, off-campus and flexible opportunities for learning. Such statements are also backed in the papers presented by UNESCO (2020c) and Huang et al. (2020).

In some cases, female students had to seek permission from parents or other male relatives to use smartphones or the internet-mediated platforms for accessing virtual classes or other learning activities. In the same vein, Hussain and Amin (2018), Leathwood and Read (2008), Dolch (2020) and Gilland Grint (2018) point to the perception of associating technology with masculinity and indicate that patriarchal practices give men greater access than women. Furthermore, the statements by the students are backed by Islahi and Nasrin (2018) regarding gender perspectives on information technology. Islahi and Nasrin state that "The varying customs, beliefs, prejudices, norms, expectations and stereotypes of the society about what is appropriate for both genders is bound to have a varying [effect] on men and women of different societies" (p. 39).

As noted earlier, the cost of the internet and equipment needed in EdTech have been unaffordable for most of the students. Some parents were rendered having to choose between or prioritise boys over girls in accessing the internet and digital devices. This is not an uncommon practice in societies and cultures where investing in girls' higher education is considered an opportunity cost (Payne et al., 2019). Payne et al. observe that "financial costs associated with education impact disproportionately on girls, as families choose to prioritise boys' education over girls'" (p. 303). Besides, multiple parallel responsibilities, such as the housework, impeded girls from regularly participating in online classes when universities closed at different intervals. In their study of the digital divide in India, Pakistan and Bangladesh and Afghanistan, Mathrani et al. (2016) describe that "Cultural practices indicate gendered discriminatory rules, with female students reporting more stress due to household responsibilities" (p. 1.). The same observations were made by Mishra and Kiran (2015) in the context of India. Tzavara & Wilczek (2019), for instance, present online education as a suitable

alternative for women who have and play multiple social roles and responsibilities as an alternative pathway for continued participation.

Some research respondents, including academics, cited marriage in the early years of the university as a reason for early dropouts. Chapter Two highlighted an array of social barriers to female participation in higher education in Afghanistan. Despite the existing obstacles and increasing restrictions on women's mobility, most of the students responded positively to EdTech, particularly the online modality, as a viable platform to pursue their aspirations for higher education.

5.5 Teaching Staff Readiness and Student Agency

Statements from the student respondents also led the theme about the readiness of teaching staff, the agency, motivation and initiative exercised by the students. As virtual and remote learning were tested and tried only in the most recent years in Afghanistan, the quality of course delivery and the capacity of the instructors were often an issue. In an analysis of the impact of COVID-19 on higher education, UNESCO (2020) emphasises teachers' competencies and readiness in ensuring the continuity of teaching and keeping students engaged using technology. In a similar analysis regarding the implementation of E-learning in Afghanistan, university academics were the first to face difficulty in implementation (Khalid, 2020). As the dominant language of EdTech, Singh (2016) also signifies the challenge for non-English speaking academics in using software and hardware tools. Since English is not the official language of instruction in Afghanistan higher education, this posed, on several instances, delivery challenges unless the platforms were translated into local languages.

Research data also described the differences in the adaptability of university academics when EdTech became a necessary alternative during the COVID-19 pandemic. These differences reflected each academic's prior teaching experience and exposure to EdTech termed by Cronje (2016) as "laggards and maverick early adaptors" (p. 131). This aspect is significant in that it showed academics' capacity and receptibility to embrace the paradigm shift and facilitate student engagement and participation (Islahi & Nasrin, 2018).

My research also uncovered lessons in agency exercised by female students: the agency and initiative exercised in the use of EdTech and, more so, coping with the shift in instruction modality to remained engaged in learning during the pandemic. In their study of higher

education instructors' readiness for online instruction when COVID-19 caused the closure of universities, Sherer et al. (2021) describe higher education instructors as a heterogeneous group that displayed different capabilities and constraints depending on variables such as gender and prior online teaching experience.

Female students in Afghanistan have had to deal with a plethora of existing challenges that have only been amplified due to global emergencies such as COVID-19 or domestic events. Accounts of the student interviews and reflections by the academics pointed to the resilience exercised by the students to stay engaged in higher education despite recurring challenges that impeded their access to EdTech for learning. Although some of the students could have addressed the disruption in access, the extent to which students' learning was affected by the changing environment would be different (Noori, 2021; Mohammadi, 2021). Students' experiences of dealing with unexpected situation were also different. In such situations, Mathrani et al. (2016) conclude that the student agency to negotiate self-representation is instrumental in shaping their learning and educational engagement.

Chapter 6: Conclusion

This chapter provides a summary of the key findings and discussions in the preceding chapters related to the research topic and questions. It also outlines some of the limitations in the study and presents potential implications for future research.

6.1 Summary of the Findings

This study explored EdTech's role in female participation in higher education in Afghanistan, with a focus on the opportunities and limitations presented by EdTech as a tool in enabling female participation in higher education.

The research findings were analysed and generated the thesis about the (i) overall importance and pitfalls EdTech in higher education as perceived by the research respondents and the existing literature, (ii) national, institutional policies and regulatory environment, (iii) historical patterns of women's access to and participation in higher education, (iv) the COVID-19 crisis and its implications for EdTech, (v) infrastructural readiness, (vi) the socio-economic factors influencing access to EdTech and participation in higher education. and (vii) student agency and the teaching staff capacity.

The research participants and the reviewed documents pointed to the critical need for EdTech to address not only quality but, more so, increase flexibility and access to higher education. Although EdTech is a relatively new phenomenon in the Afghanistan higher education system, the experience mainly in the last ten years has demonstrated the significant role of technology-based learning. Technology integration in higher education has required meaningful investment and interventions at the institutional, family and individual levels. The initial steps towards the use of technology were made in the form of E-learning; however, this has not taken full shape to date.

The centralised nature of public sector governance in Afghanistan showed that central and institutional policies directly influenced and shaped teaching and learning, including the focus in improve female access and participation. These policies also lead to creating a regulatory environment that is expected to guide and recognise the utilisation of technology in

different aspects of higher education. The findings of this study revealed that the government attempted in the last few years to establish a policy and regulatory base to recognise technology as a tool for learning. This included the formulation of by-laws, strategies, technical and operational papers. Findings from the interviews unpacked some of the barriers yet to be addressed and streamlined towards the fully recognise technology-mediated instruction and attendance as part of the students' formal academic progress. Clarity of procedures and guidelines will also provide more flexibility for students, lecturers and administrators to allocate sufficient time to the non-conventional modalities of education. With the regime change, political transition, turmoil and uncertainty since last year that, amongst other aspects, have affected women's socio-economic participation, this study has noted the caveats about the extent to which any conducive policy and regulatory environment will be established or strengthened under the current circumstances to strengthen EdTech and improve female participation.

The compelling need for shifting to online and distance delivery models during the COVID-19 pandemic posed challenges to higher education institutions in Afghanistan that were caught unprepared by the crisis and lacked sufficient experience in using EdTech. It exposed the vulnerability of the system to an emergency as the pandemic hit. Online and remote learning became a necessity in higher education. However, there was no uniform practice of online teaching across the institutions due to the lack of resources, facilities or level of preparedness by academics and administrators. Students also faced multiple challenges in adapting to the sudden change due to a lack of prior experience in online learning exacerbated by distance, social and environmental barriers, and inability to afford the basic technology-based tools. Nevertheless, the crisis provided important lessons, especially about technology's critical role in providing alternative pathways to engagement and participation.

One of the key observations from the interviews and policy document review was the significant role of EdTech infrastructure in enabling the meaningful use of technology in educational learning and instruction. Infrastructure deficiencies exacerbated the existing gender digital divide. The higher education sector in Afghanistan has suffered, in general, from a lack of sufficient resources for development. The financing and investment in the sector have not been commensurate with the increasing demands, especially in equipping the institutions with adequate and easily accessible software and hardware, or to train the end-users. Further to the issues that institutions faced, most households and students could not afford to cover the cost

of internet or digital devices, especially during the closure of campuses. Such a situation posed significant barriers to the students' ability to regularly participate in online classes, communicate with their peers and lecturers, or download digital content and materials. Coupled with insufficient exposure and prior experience of access to modern technology, the digital gap was widened between students with the pandemic widening further the divide.

Analysis of the findings testified to the importance of relevant pedagogical skills of lecturers and academics to use EdTech for using technology for effective teaching, such as using virtual and digital content and platforms. The rollout of online and hybrid programmes exposed the varying degrees of readiness of the academics across universities in using non-conventional and technology-based teaching methods. Digital literacy was a crucial factor in determining the lecturer effectiveness. Academics with prior experience and relevant training in digital platforms were better placed in engaging students through online classes or the production of digital contents. The initiative level of the academics to maximise the effective use of EdTech was driven by their level of expertise and prior exposure to technology-based teaching tools. Students' ability to participate in learning was affected essentially by their socio-economic conditions and the extent to which they were able to exercise their agency and demonstrate initiative and resilience under various circumstances in staying engaged in learning.

The social relevance of EdTech was reflected in the local context of Afghanistan, drawing on perspectives from the academic literature review. The findings revealed that female students encountered, in some instances, particular and gender-related social barriers to accessing digital devices. In some families, male family members were prioritised and provided with the technological facilities to continue their higher education. On a few occasions, girls had to seek permission from their parents or other male family members to use the internet or a digital device. Multiple household responsibilities also posed time pressure to female students to attend online classes, especially during the COVID-19 crisis. Notwithstanding these barriers, EdTech was highlighted as a potential mitigating factor that could provide more learning flexibility synchronously and asynchronously. Modern technology is the pathway to accessing digital content and the venue for enrolling in domestic and overseas higher education programmes without requiring much physical mobility: often a binding constraint for women in Afghanistan.

The findings also reiterated the economic dividends of meaningful engagement and participation of women in higher education at the individual, family and societal levels. As described by Tjomsland (2009) “women’s higher education stands out as a highly efficient way of shaping more gender-equitable societies and thus as a major vehicle for general development” (p. 407). In gaining these dividends, the interviews and academic literature emphasised the importance of EdTech in facilitating such purposeful participation for women in Afghanistan higher education.

6.2 Limitations of the Study and Prospects for Future Research

Similar to other empirical and research-based work, this study has its limitations and strengths. For instance, while digital research is becoming increasingly common globally, I believe that research would have yielded richer data if it had been undertaken through physical presence in Afghanistan. Being on the ground would have established a better rapport with some of the participants and obtain more rigorous data. However, the relatively sensitive nature of the topic in the current context of Afghanistan, remote and virtual interaction improved the confidentiality and anonymity aspect, thus enabling some participants to be more vocal without widely identifying themselves. As the participants were dispersed in different locations within and outside Afghanistan at different time zones, it proved challenging to organise focused group discussions to enrich the debate around the topic and the research question. Access to reliable internet and digital devices was particularly challenging for participants in Afghanistan to come together simultaneously.

Individual interviews reflect the specific knowledge or information constructed and shared by an interviewee that may not cover the reality external to them. Interview information can also be subjective and change from one moment to the next (Taylor et al, 2016; May, 2011). However, this study relied on respondent checking to validate the information.

The literature review and my knowledge of higher education in Afghanistan also indicate the absence of an in-depth and comprehensive study of EdTech, both in terms of the soft and hard traits. This would have enabled the current research to draw on more rigorous and updated data on EdTech in Afghanistan and to use that for delving more deeply into its role in female participation in higher education. Nevertheless, the study relied on all and any available and relevant data, literature and information - both local and global - to construct knowledge and present evidence to support the empirical findings.

This research also acknowledges the abrupt changes in Afghanistan's governance, political, economic and social landscape since last year. The changing and uncertainty in political economy, particularly in the public sector coupled with the exodus of technical human resources from the country since last year, challenged my access to some of the data sources. Most of the data and figures used in this research are either based on interviews or data produced in the last few years before the changes in August 2021.

This study leads to potentially new information, valuable and updated insight on the higher education sector in Afghanistan, the status of EdTech, and the discourse on the technology-based approach to improving female participation in the higher education system of this specific country context. As stated earlier in this dissertation, this discourse has remained under-researched in Afghanistan. Therefore, this study is a relevant and important contribution to the knowledge and understanding of EdTech-female learning continuity nexus.

This study provides the parameters and information sources to engage more purposefully in the compelling case of women's higher education in Afghanistan and how modern technology can be leveraged to create non-conventional and flexible approaches to learning continuity, access and participation. As stated earlier, I recognise the changes that have resulted in fluidity, uncertainty, and concerns regarding the overall situation in Afghanistan, including the impact of these changes on higher education. Nevertheless, the findings and analysis in this study will benefit all internal and external actors aiming to support female higher education in Afghanistan through innovative and creative technology-based approaches. It is also a source for deconstructing the underlying social factors and multiple other nuances that impact female education at the individual, family and society levels. Where this study considers the opportunities and limitations around EdTech to promote female participation in higher education in Afghanistan, the key variables at play – access to basic infrastructure, social and cultural norms, and the technology itself – are rapidly changing. The specific context of Afghanistan merits additional research on the opportunities and limitations around EdTech in supporting female participation in higher education, and this study can form a solid basis for any such forthcoming and future research.

References

- Adedoyin, O. B., & Soykan, E. (2020). Covid-19 pandemic and online learning: the challenges and opportunities. *Interactive Learning Environments*, 1-13.
- Adkins, M. J. (2016). Challenges for progressive education in Afghanistan: A history of oppression and the rising threat of ISIS. *International Journal of Progressive Education*, 12(2), 104-111.
- Ahmadi, M. H. (2022). *Higher education of Afghanistan under the Taliban rule: Review and analysis of past and current impacts*.
<https://policycommons.net/artifacts/2326592/higher-education-of-afghanistan-under-the-taliban-rule/3087216/>. Accessed on 4th July 2022.
- Akhtar, F., & Ranjan, A. (2021): *Afghanistan's education sector: Prospects under Taliban rule*. Reliefweb. <https://reliefweb.int/report/afghanistan/afghanistan-s-education-sector-prospects-under-taliban-rule>. Accessed on 5th July 2022.
- Albert, L. J., & Johnson, C. S. (2011). Socioeconomic status and gender-based differences in students' perceptions of e-learning systems. *Decision Sciences Journal of Innovative Education*, 9(3), 421-436.
- Ali, S., Uppal, M. A., & Gulliver, S. R. (2018). A conceptual framework highlighting e-learning implementation barriers. *Information Technology & People*, 31(1), 156-180. doi:10.1108/ITP-10-2016-0246
- Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher Education Studies*, 10(3), 16. doi:10.5539/hes.v10n3p16
- Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2010a). Access and equity. In P.G. Altbach, L. Reisberg & L. E. Rumbley (eds.), *Trends in global higher education: Tracking an academic revolution*, Leiden; Boston, 2010.
- Altbach, P. G., Reisberg, L., & Rumbley, L. E. (2010b). Information and communications technology and distance education. In P.G. Altbach, L. Reisberg & L. E. Rumbley (eds.), *Trends in global higher education: Tracking an academic revolution*, Leiden; Boston, 2010.

- Alyahya, M. A., Elshaer, I. A., Abunasser, F., Hassan, O. H. M., & Sobaih, A. E. E. (2022). E-Learning experience in higher education amid COVID-19: Does gender really matter in a gender-segregated culture?. *Sustainability*, 14(6), 3298.
- Amri, M., Angelakis, C., & Logan, D. (2021). Utilizing asynchronous email interviews for health research: Overview of benefits and drawbacks. *BMC Research Notes*, 14:148, <https://doi.org/10.1186/s13104-021-05547-2>
- Antonio, A., & Tuffley, D. (2014). The gender digital divide in developing countries. *Future Internet*, 6(4), 673-687. doi:10.3390/fi6040673
- Aparicio, M., Bacao, F., & Oliveira, T. (2016). An e-learning theoretical framework. *Educational Technology & Society*, 19(1), 292-307. <http://eric.ed.gov/?id=EJ1087110>
- Arnhold, N., & Bassett, R. M. (2021). *Steering tertiary education: Toward resilient systems that deliver for all*. The World Bank. Washington DC.
- Attia, M., & Edge, J. (2017). Be(com)ing a reflexive researcher: A developmental approach to research methodology. *Open Review of Educational Research*, 4(1), 33-45. doi:10.1080/23265507.2017.1300068
- Aturupane, H., Shojo, M., Sofizada, A.H., Millot, B. (2013). *Higher education in Afghanistan: An emerging mountainscape*. The World Bank, South Asia Region, Washington D.C. https://www.researchgate.net/publication/282332975_Higher_Education_in_Afghanistan_An_Emerging_Mountainscape
- Babury, M. O., & Hayward, F. M. (2014). Afghanistan Higher Education: The Struggle for Quality, Merit, and Transformation. *Planning for Higher Education*, 42(2), 1.
- Bans-Akutey, A. & Tiimub, B. M. (2021). Triangulation in research. *Academic Letters*. Article 3392. [Hhttp://doi.org/10.20935/AL3392](http://doi.org/10.20935/AL3392).
- Beaunoyer, E., Dupéré, S., & Guitton, M. J. (2020). COVID-19 and digital inequalities: Reciprocal impacts and mitigation strategies. *Computers in Human Behavior*, 111, 106424. <https://doi.org/10.1016/j.chb.2020.106424>

- Bennett, A., Southgate, E., & Mahsood, S. (2015). Global perspectives on widening participation: Approaches and concepts. In M. Shah, A. Bennet, & E. Southgate (2015), *Widening higher education participation: A global perspective*. Elsevier Science & Technology.
- Blessinger, P., Hoffman, J., & Makhanya, M. (2018). Introduction to contexts for diversity and gender identities in higher education. In J. Hoffman, P. Blessinger, & M. Makhanya (2018), *Contexts for diversity and gender identities in higher education: International perspectives on equity and inclusion*. Emerald Publishing Ltd.
- Braun, V. & Clarke, V. (2021). *Thematic analysis: A practical guide*. SAGE, Los Angeles; London.
- Brennan, J. (2018). The social dimension of higher education: Reproductive and transformative. In B. Cantwell, H. Coate, & R. King (eds.), *Handbook on the politics of higher education*. Edward Elgar Publishing.
- Brotherhood, T., Yang, L., & Chankseliani, M. (2020, September 10). COVID-19 and higher education: Implications for equity, and a return to the common good. <https://postpandemicuniversity.net/2020/09/10/covid-19-and-higher-education-implications-for-equity-and-a-return-to-the-common-good/>
- Bryman, A. (2016). *Social research methods*. Oxford university press.
- Burridge, N., Maree Payne, A., & Rahmani, N. (2016). 'Education is as important for me as water is to sustaining life': Perspectives on the higher education of women in Afghanistan. *Gender and Education*, 28(1), 128-147. doi:10.1080/09540253.2015.1096922
- Castro, R. (2019). Blended learning in higher education: Trends and capabilities. *Education and Information Technologies*, 24(4), 2523-2546. doi:10.1007/s10639-019-09886-3

- Chankseliani, M., Qoraboyev, I., & Gimranova, D. (2020). Higher education contributing to local, national, and global development: New empirical and conceptual insights. *Higher Education*, 81(1), 109-127. doi:10.1007/s10734-020-00565-8
- Chankseliani, M., & McCowan, T. (2020). Higher education and the sustainable development goals. *Higher Education*, 81(1), 1-8. doi:10.1007/s10734-020-00652-w
- Chien, C., Mountjourides, P., & Van Der Pol, H. (2016). Global trends of access to and equity in postsecondary education. In A. Mountford-Zimdars, & N. Harrison (eds.), *Access to higher education: Theoretical perspectives and contemporary challenges*. Routledge; London.
- Cisco. 2020. *Cisco Global Digital Readiness Index 2019*. White paper. Cisco public. https://www.cisco.com/c/dam/en_us/about/csr/reports/global-digital-readiness-index.pdf
Accessed on 6th July 2022.
- Clark, T., Foster, L., Sloan, L., & Bryman, A. (2021). *Bryman's social research methods* (Sixth ed.). Oxford: Oxford University Press.
- Coe, R. J. (2012). The nature of educational research – exploring the different understandings of educational research. In J. Arthur, M. Waring, R. Coe, & L. Hedges (Eds.), *Research methods and methodologies in education*. SAGE Publications.
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education* (Eighth ed., Ebook central). Routledge.
- Couch, D. (2019) The policy reassembly of Afghanistan's higher education system. *Globalisation, Societies and Education*, 17(1), 44-60, DOI: 10.1080/14767724.2018.1523708
- Creswell, J. W. (2009) *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, 3rd Edition, Los Angeles: SAGE Publications.

- Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches*. (4th ed.). Los Angeles, LA: SAGE Publications.
- Creswell, J. W., & Guetterman, T. (2021). *Educational research: Planning, conducting and evaluating quantitative and qualitative research* (Sixth ed.). Pearson: Harlow, England.
- Cronje, J. (2016). Learning technology in higher education. In N. Rushby, & D. Surry (eds.), *The Wiley handbook of learning technology*. John Wiley & Sons Inc.
- Cuadrado-Garcia, M., Ruiz-Molina, M., & Montoro-Pons, J. D. (2010). Are there gender differences in e-learning use and assessment? Evidence from an inter-university online project in Europe. *Procedia-Social and Behavioral Sciences*, 2(2), 367-371.
- Dahlin, E. (2021). Email interviews: A guide to research design and implementation. *International Journal of Qualitative Methods*, 20, DOI: 10.1177/16094069211025453
- De Vaus, D. (2014). *Surveys in social research*. Abingdon, Oxon.
- Di Pietro, G., Biagi, F., Costa, P., Karpiński, Z., & Mazza, J. (2020). *The likely impact of COVID-19 on education: Reflections based on the existing literature and recent international datasets* (Vol. 30275). Publications Office of the European Union.
- Dolch, C. (2020). Toys for the boys, tools for the girls? gender and media usage patterns in higher education. *The Turkish Online Journal of Distance Education TOJDE*, , 94-111. doi:10.17718/tojde.762031
- Doyle, O. (2020). COVID-19: Exacerbating educational inequalities. *Public Policy*, 1-10.
- Espinoza, O. (2007). Solving the equity-equality conceptual dilemma: A new model for analysis of the educational process. *Educational Research*, 49(4), 343-363. doi:10.1080/00131880701717198
- Fereday, Jennifer and Eimear Muir-Cochrane (2006) 'Demonstrating Rigor Using Thematic Analysis: A Hybrid Approach of Inductive and Deductive Coding and Theme Development', *International Journal of Qualitative Methods* 5(1): 80–92

Fox, N. (2009). *Using Interviews in a Research Project*. NIHR RDS for the East Midlands.

Gaspar, D. (2007). What is the capability approach? Its core, rationale, partners and dangers. *The Journal of Social Economics*, 36(3), 335-359.

Ghavifekr, S., & Fung, H. Y. (2021). Change management in digital environment amid the COVID-19 pandemic: A scenario from Malaysian higher education institutions. In S. Saeed, M. P. R. Boliver, & R. Thurasamy (eds.), *Pandemic, lockdown, and digital transformation: Challenges and opportunities for public administration, NGOs, and businesses*. Volume 7, Springer.

Gill, R., & Grint, K. (2018). Introduction the gender-technology relation: Contemporary theory and research. In K. Grint & R. Gill (Eds.), *The gender-technology relation: Contemporary theory and research*. Taylor & Francis Group.

Giustozzi, A. (2010). *Between patronage and rebellion: student politics in Afghanistan* Briefing paper series. Afghanistan Research and Evaluation Unit, Kabul, Afghanistan.

Goodell, L. S., Stage, V. C., & Cooke, N. K. (2016). Practical qualitative research strategies: Training interviewers and coders. *Journal of Nutrition Education and Behavior*, 48(8), 578-585.

Greenbank, P. (2003). The role of values in educational research: The case for reflexivity. *British Educational Research Journal*, 29(6), 791–801. DOI: 10.1080/0141192032000137303

Guri-Rosenblit, S. (2010). Access and equity in higher education: Historical and cultural contexts. In H. Eggins (ed.), *Access and equity: Comparative perspectives*. Sense Publishers.

Hameed, Y., Al Taiar, H., O'Leary, D., & Kaynge, L. (2018). Can online distance learning improve access to learning in conflict zones? The Oxford Psychiatry in Iraq (OxPIQ) experience. *British Journal of Medical Practitioners*, 11(2).

- Hani, M. (2021). Conducting a qualitative document analysis. *The Qualitative Report*, 27(1), 64-77. <http://doi.org/10.46743/2160-3715/2022/5044>
- Händel, M., Stephan, M., Gläser-Zikuda, M., Kopp, B., Bedenlier, S., & Ziegler, A. (2020). Digital readiness and its effects on higher education students' socio-emotional perceptions in the context of the COVID-19 pandemic. *Journal of Research on Technology in Education*, 54(2), 267-280. doi:10.1080/15391523.2020.1846147
- Hashemi, A. (2021). Online teaching experiences in higher education institutions of Afghanistan during the COVID-19 outbreak: Challenges and opportunities. *Cogent Arts & Humanities*, 8(1) doi:10.1080/23311983.2021.1947008
- Hashemi, A., & Kew, S. N. (2021). The barriers to the use of ICT in English language teaching: A systematic literature review. *Journal of Information and Communication Technologies*, 3(1), 77-88.
- Hassan, Bushra, Tim Unwin and Akber Gardezi (2018) 'Understanding the darker side of ICTs: Gender, sexual harassment, and mobile devices in Pakistan', *Information Technologies & International Development (Special Section)* 14: 1–17
- Hayward, F. M., & Babury, M. O. (2015). The struggle to rebuild and transform higher education in Afghanistan. *International Higher Education*, (81), 18-20.
- Hayward, F. M., & Karim, R. (2019). The struggle for higher education gender equity policy in Afghanistan: Obstacles, challenges and achievements. *Education Policy Analysis Archives*, 27, 139. doi:10.14507/epaa.27.3036
- Hesse-Biber, S. N., & Leavy, P. (2010). Pushing on the methodological boundaries: The growing need for emergent methods within and across the disciplines. In S. N. Hesse-Biber & P. Leavy (Eds.), *Handbook of emergent methods*. Guilford.

- Hewson, C. (2014). Qualitative Approaches in Internet-Mediated Research: Opportunities, Issues, Possibilities. In L. Patricia (Ed.), *The Oxford Handbook of Qualitative Research*. (pp. 423–452). Oxford University Press.
- Hewson, C., Vogel, C., & Laurent, D. (2016). *Internet research methods*. (Second ed.). SAGE Publications.
- Higher Education Development Project (HEDP) (2015). *Higher Education Development Project*. Project Appraisal Document (PAD). The World Bank, Afghanistan.
<https://projects.worldbank.org/en/projects-operations/project-detail/P146184>
- Higher Education Development Project (HEDP) (2020). *Higher Education Development Project*. Restructuring Paper. The World Bank, Afghanistan.
<https://projects.worldbank.org/en/projects-operations/project-detail/P146184>
- Hine, C. (2004). Social research methods and the internet: A thematic review. *Sociological Research Online*, 9(2), 110–116.
- Huang, R. H., Liu, D. J., Guo, J., Yang, J. F., Zhao, J. H., Wei, X. F., Knyazeva S., Li, M., Zhuang, R. X., Looi, C. K., & Chang, T. W. (2020). Guidance on flexible learning during campus closures: Ensuring course quality of higher education in COVID-19 outbreak. *Beijing: Smart Learning Institute of Beijing Normal University*.
- Hussain, F., & Amin, S. N. (2018). 'I don't care about their reactions': Agency and ICTs in women's empowerment in Afghanistan. *Gender and Development*, 26(2), 249-265. doi:10.1080/13552074.2018.1475924
- International Telecommunication Unit (ITU), (2020). *The gender digital divide*.
<https://www.itu.int/itu-d/reports/statistics/2021/11/15/the-gender-digital-divide/> Accessed on 4th July, 2022.
- Islahi, F., & Nasrin (2019). Exploring teacher attitude towards information technology with a gender perspective. *Contemporary Educational Technology*, 10(1), 37-54. doi:10.30935/cet.512527

- Islamic Republic of Afghanistan (2004). *The constitution of the Islamic Republic of Afghanistan*. Ratified on 26th January 2004. Kabul, Afghanistan.
- Kabeer, N. (2005). Gender equality and women's empowerment: A critical analysis of the third millennium development goal 1. *Gender & Development* 13(1): 13–24
- Kearney, M. L. (2010). Forward. In H. Eggins (ed.), *Access and equity: Comparative perspectives*. Sense Publishers.
- Kasozi, A. B. K. (2009). Access and equity problems in Uganda. In J. Knight (ed.), *Financing access and equity in higher education*. Sense Publishers.
- Khalid, A. H. (2020). *An exploratory qualitative study of the potential for enhanced e-learning in public higher education in Afghanistan*. Indiana University of Pennsylvania, US. Dissertation published by ProQuest LLC (2020). <https://search.proquest.com/docview/2399400092>
- King, N., Horrocks, C., & Brooks, J. (2019). *Interviews in qualitative research* (Second ed.) SAGE Publications; Los Angeles.
- Leathwood, C., & Read, B. (2008). *Gender and the changing face of higher education: A feminized future?* McGraw-Hill Education (UK).
- Laufer, M., Leiser, A., Deacon, B., Perrin de Brichambaut, P., Fecher, B., Kobsda, C., & Hesse, F. (2021). Digital higher education: A divider or bridge builder? leadership perspectives on edtech in a COVID-19 reality. *International Journal of Educational Technology in Higher Education*, 18(1), 51. doi:10.1186/s41239-021-00287-6
- Lincoln, Y. S., Lynham, S. A., & Guba, E. G. (2011). Paradigmatic controversies, contradictions, and emerging confluences, revisited. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research*. SAGE Publications Inc.

- Lindsay, V., & Williams, H. (2014). In hindsight: The challenges of virtual mentoring the future higher education leaders of Afghanistan. *International Journal of Evidence Based Coaching and Mentoring*, 12(2), 203-218.
- Marginson, S. (2011). Equity, status and freedom: A note on higher education. *Cambridge Journal of Education*, 41(1), 23-36. doi:10.1080/0305764X.2010.549456
- Mashriqi, K. (2016). Afghanistan women's perceptions of access to higher education. *Journal of Research Initiatives*, 2(1), Article 2.
- Mashwani, H. U. (2017). Female education in Afghanistan: Opportunities and challenges. *International Journal For Innovative Research In Multidisciplinary Field*, 3(11).
- Mathrani, A., Sarvesh, T., & Umer, R. Digital divide framework: Online learning in developing countries during the COVID-19 lockdown. *Globalisation, Societies and Education*, 1-16. doi:10.1080/14767724.2021.1981253
- Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (3rd ed.). Applied social research methods series; 41. Los Angeles.
- May, T. (2011). *Social research: Issues, methods and process*. (4th ed., Ebook central). Maidenhead, England: McGraw-Hill.
- May, T., & Sutton, C. (2011). Social surveys: design to analysis. In May, T. (Ed.). *Social Research*. Berkshire: Open University Press
- McCowan, T. (2016). Three dimensions of equity of access to higher education. *Compare: A Journal of Comparative and International Education*, 46(4), 645-665. doi:10.1080/03057925.2015.1043237
- Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation* (2nd ed.). A Wiley Brand.
- Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass, A Wiley Brand.
- Meyer, H. D., St John, E. P., Chankseliani, M., & Uribe, L. (2013). Introduction: The crisis of higher education access – A crisis of justice. In H.D. Meyer, E. P. S. John, M. Chankseliani,

& L. Uribe (eds.), *Fairness in access to higher education in a global perspective: Reconciling excellence, efficiency, and justice*. Sense Publishers.

Ministry of Communication and Information Technology (2015). *Draft ICT policy for Afghanistan: A digital agenda for development and social change (2015 – 2024)*. Kabul, Afghanistan: Ministry of Communication and Information Technology.

Ministry of Higher Education (2016). *Higher education gender strategy (2016 – 2020)*. Kabul, Afghanistan: Ministry of Higher Education

Ministry of Higher Education (2020a). *Compendium of guidelines and by-laws of the Ministry of Higher Education*. Kabul, Afghanistan: Directorate of Publication, Ministry of Higher Education.

Ministry of Higher Education (2020b). *Proposed COVID-19 response plan for higher education*. Kabul, Afghanistan: Ministry of Higher Education

Ministry of Higher Education (2020c). *Impact assessment of Higher Education Development Project initiatives on promoting female enrolment at public universities*. Kabul, Afghanistan: Operations and Monitoring Support Team, Higher Education Development Program, Ministry of Higher Education

Ministry of Higher Education (2020d). *E-learning by-law*. Kabul, Afghanistan: Directorate of Academic Program Development, Ministry of Higher Education.

Ministry of Higher Education (2021a). *Draft blended learning training manual*. Kabul, Afghanistan: Ministry of Higher Education

Ministry of Higher Education (2021b). *Draft national higher education strategic plan (1400 – 1409 solar calendar)*. Kabul, Afghanistan: Directorate of Policy and Planning, Ministry of Higher Education.

Ministry of Higher Education (2022a). *General list of private universities and higher education institutes*. <https://mohe.gov.af/en/general-list-private-universities-and-institutes-higher-education> . Kabul, Afghanistan. Accessed on 5th July 2022.

Ministry of Higher Education (2022b). *Government educational institutions*. <https://mohe.gov.af/en/government-educational-institutions>. Kabul, Afghanistan. Accessed on 5th July 2022.

- Ministry of Justice (2020). *Law of the public higher education*. Kabul, Afghanistan: Official gazette no. 1374, Ministry of Justice.
- Mishra, G., & Kiran, U. V. (2015). Role of ICT in achieving complete gender equality in India. *International Journal of Technical Research and Applications*, 3(3), 184-189.
- Mohammadi, M. K., Mohibbi, A. A., & Hedayati, M. H. (2021). Investigating the challenges and factors influencing the use of the learning management system during the Covid-19 pandemic in Afghanistan. *Education and Information Technologies*, 26(5), 5165-5198. <https://link.springer.com/article/10.1007/s10639-021-10517-z>
- Najimi, A. W. (2012). Architectural education in Afghanistan: evolution, challenges and opportunities. *ArchNet-International Journal of Architectural Research (IJAR)*, 6(2), 158-180.
- Netswera, F., Woldegiyorgis, A. A., & Karabchuk, T. (2022). Introduction: COVID-19 pandemic and higher education. In F. Netswera, A. A. Woldegiyorgis & T. Karabchuk (eds.), *Higher education and the COVID-19 pandemic: Cross-national perspectives on the challenges and management of higher education in crisis times*. Brill.
- Noori, A. Q. (2021). The impact of COVID-19 pandemic on students' learning in higher education in Afghanistan. *Heyliyon*, 7 (10), e08113. <https://reader.elsevier.com/reader/sd/pii/S2405844021022167?token=08238A6E744B47B326BECCD354E2B41A9FC17A94E8FD14A8B7456CBFBEA52B241AB7C8628593680D27BC5EC92C90B432&originRegion=eu-west-1&originCreation=20220702234416>
- Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods*, 16(1), 1-13.
- O'Donnell, A., & Sweetman, C. (2018). Introduction: Gender, development and ICTs. *Gender and Development*, 26(2), 217-229. doi:10.1080/13552074.2018.1489952
- Olson-Strom, S., & Rao, N. (2020). Higher education for women in Asia. In C. S. Sanger and Olson-Strom, S., & Rao, N. (2020). Higher education for women in Asia. In C. S. Sanger & N. W. Gleason (eds.), *Diversity and inclusion in global higher education: Lessons from across Asia*. Palgrave Macmillan: Singapore.

- Olukotun, O., Mkandawire, E., Antilla, J., Alfaifa, F., Weitzel, J., Scheer, V., Olukotun, M. & Mkandawire-Valhmu, L. (2021). An analysis of reflections on researcher positionality. *The Qualitative Report*, 26(5), 1411-1426. doi:10.46743/2160-3715/2021.4613
- Ormrod, S. (2018). Feminist sociology and methodology: Leaky black boxes in gender/technology relations. In K. Grint & R. Gill (Eds.), *The gender-technology relation: Contemporary theory and research*. Taylor & Francis Group.
- Oryakhail, M. S., Saay, S., & Nasery, H. (2021). Challenges in the implementation of E-learning in Afghanistan Higher Education. In *2021 International Conference Advancement in Data Science, E-learning and Information Systems (ICADEIS)* (pp. 1-6). IEEE.
- Palomares-Ruiz, A., Cebrián, A., López-Parra, E., & García-Toledano, E. (2020). ICT integration into science education and its relationship to the digital gender gap. *Sustainability*, 12(13), 5286. doi:10.3390/su12135286
- Parker, C., Scott, S., & Geddes, A. (2019). Snowball sampling. *SAGE Research Methods Foundations*. DOI: [10.4135/](https://doi.org/10.4135/), Official URL: <http://methods.sagepub.com/foundations/snowball-sampling>
- Patton, M. Q. (2002). Two decades of developments in qualitative inquiry: A personal, experiential perspective. *Qualitative Social Work: QSW: Research and Practice*, 1(3), 261-283.
- Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (4th ed.). SAGE Publications.
- Payne, A. M., BurrIDGE, N., & Rahmani, N. (2019). ‘An Education Without any Fear?’: Higher education and gender justice in Afghanistan. In R. Shackel, & L. Fiske (eds.), *Rethinking transitional gender justice: Transformative approaches in post-conflict settings*. Palgrave Macmillan.
- Pherali, T., & Sahar, A. (2018). Learning in the chaos: A political economy analysis of education in Afghanistan. *Research in Comparative and International Education*, 13(2), 239-258. doi:10.1177/1745499918781882
- Punch, K. (1998). *Introduction to Social Research: Quantitative and Qualitative Approaches*. SAGE Publications, Inc.

- Ramanadhan, S., Revette, A. C., Lee, R. M., & Aveling, E. L. (2021). Pragmatic approaches to analyzing qualitative data for implementation science: An introduction. *Implementation Science Communications*, 2(1), 70. doi:10.1186/s43058-021-00174-1
- Roof, D. J. (2015). Day-by-Day: Higher education in Afghanistan. *IFIRE: Forum for International Research in Education*, Vol. 1, No. 3.
- Rowe, W. E. (2014). Positionality. In D. Coghlan & M. Brydon-Miller (Eds), *The SAGE encyclopaedia of action of action research*. SAGE Publications Ltd. London
- Ryan, Y., & Latchem, C. (2016). Educational technologies in distance education: Off-campus and online, but on course?. In N. Rushby, & D. Surry (eds.), *The Wiley handbook of learning technology*. John Wiley & Sons Inc.
- Saay, S., Norta, A., & Laanpere, M. (2015, November). Towards an architecture for E-learning infrastructures on a national level: a case study of AfgREN. In Z. Gong, D. K.W. Chiu & D. Zou (Eds.). *Current Developments in Web Based Learning*. ICWL 2015 International Workshops, KMEL, IWUM, LA Guangzhou, China, November 5–8, 2015 Revised Selected Papers. Springer.
- Sabzalieva, E. (2019). Higher education policy in Central Asia and Afghanistan. *University of Central Asia–Institute of Public Policy and Administration (IPPA) Working Paper*, (51).
- Sadikin, M., & Purwanto, S. K. (2018). The implementation of E-learning system governance to deal with user need, institution objective, and regulation compliance. *TELKOMNIKA (Telecommunication Computing Electronics and Control)*, 16(3), 1332-1344.
- Sahar, A., & Kaunert, C. (2021). Higher education as a catalyst of peacebuilding in violence and conflict-affected contexts: The case of Afghanistan. *Peacebuilding*, 9(1), 57-78. doi:10.1080/21647259.2020.1731123
- Sahar, A., & Kaunert, C. (2022). Desecuritisation, deradicalisation, and national identity in Afghanistan: Higher education and desecuritisation processes. *European Journal of International Security*, 7(2), 189-206. doi:10.1017/eis.2021.31
- Salmons, J. (2015). *Qualitative online interview: Strategies, design, and skills* (Second ed.). SAGE Publications, Los Angeles.

- Samady, S. (2001). *Education and Afghan society in the twentieth century*. United Nations Educational, Scientific and Cultural Organization. <https://unesdoc.unesco.org/ark:/48223/pf00000124627>
- Sarwari, K., Kakar, A. F., Golzar, J., & Miri, M. A. (2022). Distance learning during COVID-19 in Afghanistan: Challenges and opportunities. *E-Learning and Digital Media*, 19(2), 144-162. doi:10.1177/20427530211044757
- Sen, A. (1999). *Development as freedom*. New York: Knopf.
- Sen, A. (2001). The many faces of gender inequality. *Frontline*, 18(22), 1-19.
- Sen, A. (2006). *Development as freedom*. Knopf: New York. <http://www.frontline.in/static/html/f11822/18220040.htm>
- Schendel, R., & McCowan, T. (2016). Expanding higher education systems in low- and middle-income countries. *Higher Education*, 72(4), 407-411. doi:10.1007/s10734-016-0028-6
- Scherer, R., Howard, S. K., Tondeur, J., & Siddiq, F. (2020). Profiling teachers' readiness for online teaching and learning in higher education: Who's ready?. *Computers in Human Behavior*. 118 doi:10.1016/j.chb.2020.106675
- Shayan, Z. (2015). Gender inequality in education in Afghanistan: Access and barriers. *Open Journal of Philosophy*, 5(5), 277-284. doi:10.4236/ojpp.2015.55035
- Singh, G. (2016). Challenges for teachers in the era of e-learning in India. *Scholedge International Journal of Multidisciplinary & Allied Studies*, 3(2), 14-18. Doi:10.19085/journal.sijmas030201
- Staller, K. M. (2021). Big enough? sampling in qualitative inquiry. *Qualitative Social Work : QSW : Research and Practice*, 20(4), 897-904. doi:10.1177/14733250211024516
- Stewart, D. L. (2010). Researcher as instrument: Understanding “shifting” findings in constructivist research. *Journal of Student Affairs Research and Practice*, 47(3), 287-302. doi:10.2202/1949-6605.6130
- Suri, H. (2011). Purposeful sampling in qualitative research synthesis. *Qualitative Research Journal*, 11(2), 63–75.
- Tang, Y. M., Chen, P. C., Law, K. M. Y., Wu, C. H., Lau, Y., Guan, J., He, D. & Ho, G. T. S. (2021). Comparative analysis of student's live online learning readiness during the

- coronavirus (COVID-19) pandemic in the higher education sector. *Computers and Education*, 168, 104211. doi:10.1016/j.compedu.2021.104211
- Taylor, S. J., Bogdan, R., & DeVault, M. L. (2016). *Introduction to qualitative research methods: A guidance and resource* (4th ed.). John Wiley & Sons Inc.
- Thunberg, S., & Arnell, L. (2021). Pioneering the use of technologies in qualitative research - A research review of the use of digital interviews. *International Journal of Social Research Methodology*, DOI: 10.1080/13645579.2021.1935565
- Tilak, J. B. G. (2018). Higher education and development in asia. *Higher education, public good and markets* (1st ed., pp. 237-259) Routledge. doi:10.4324/9781315146386-12
Retrieved
- Tjomsland, M. (2009). Women in higher education: A concern for development? *Gender, Technology and Development*, 13(3), 407-427. doi:10.1177/097185241001300305
- Tzavara, D., & Wilczek, B. (2019). Online: A new ‘geography’ of learning that supports female access to higher education. In J. Hoffman, P. Blessinger, & M. Makhanya (eds.), *Strategies for fostering inclusive classrooms in higher education: International perspectives on equity and inclusion*. Emerald Publishing Ltd.
- United Nations (2015). *Sustainable development goals*. United Nations Development Program, New York.
- UNESCO (1998). *World declaration on higher education for the twenty-first century: Vision and action*. Word Conference on Higher Education, United Nations Educational, Scientific and Cultural Organization, Paris.
https://bice.org/app/uploads/2014/10/unesco_world_declaration_on_higher_education_for_the_twenty_first_century_vision_and_action.pdf
- UNESCO (2020a). *COVID-19 educational disruption and response*. United Nations Educational, Scientific and Cultural Organization, 2020.
<https://en.unesco.org/covid19/educationresponse>
- UNESCO (2020b). *COVID-19 analysis and higher education – Today and tomorrow: Impact analysis, policy responses and recommendations*. Educational, Scientific and Cultural Organization, April 9, 2020.

- UNESCO (2020c). *SDG 4 – Policies for flexible learning pathways in higher education: Taking stock of good practices internationally*. UNESCO International Institute for Educational Planning.
- UNESCO (2021). *Women in higher education: Has the female advantage put an end to gender inequalities?* United Nations Educational, Scientific and Cultural Organization. Paris.
- UNESCO (2022). *Gender parity index (GPI)*. UNESCO International Institute for Educational Planning (IIEP). <https://learningportal.iiep.unesco.org/en/glossary/gender-parity-index-gpi>. Accessed on 8th July 2022.
- Unterhalter, E. (2009). What is equity in education? reflections from the capability approach. *Studies in Philosophy and Education*, 28(5), 415-424. doi:10.1007/s11217-009-9125-7
- Üstün, A. B. (2021). The power of using emerging technologies in MOOCs: Accelerating globalization in higher education. *Journal of Learning and Teaching in Digital Age*, 6(2), 141-148.
- Wagner, N., Hassanein, K., & Head, M. (2008). Who is responsible for e-learning success in higher education? A stakeholders' analysis. *Journal of Educational Technology & Society*, 11(3), 26-36.
- Waller, R. E., Lemoine, P. A., Mense, E. G., & Richardson, M. D. (2019). Higher education in search of competitive advantage: Globalization, technology and e-learning. *International Journal of Advanced Research and Publications*, 3(8), 184-190.
- Walliman, N. (2006). Data collection methods. In Walliman, N. Sage (Ed). *Course Companions: Social research methods*, 83-100.
- Wangenge-Ouma, G., Kupe, T. (2022). Seizing the COVID-19 Conjuncture: Re-positioning Higher Education Beyond the Pandemic. In Mogaji, E., Jain, V., Maringe, F., Hinson, R.E. (Eds): *Re-imagining educational futures in developing countries*. Palgrave Macmillan. https://doi.org/10.1007/978-3-030-88234-1_2
- Wickens, C. M., & Miller, T. (2021). Gender, digital literacies, and higher education: Examinations of equity. In N. S. Niemi & M. B. Weaver-Hightower (eds.), *The Wiley handbook of gender equity in higher education*. John Wiley & Sons.

- Willems, J., Farley, H., & Campbell, C. (2019). The increasing significance of digital equity in higher education. *Australasian Journal of Educational Technology*, 35(6), 1-8. doi:10.14742/ajet.5996
- World Bank. (2018). *Afghanistan: Promoting education during times of increased fragility*. The World Bank.
- World Bank (2021). *Strengthening women's role in higher education in South Asia: The role of higher education institutions*. The World Bank, June 2021. Unpublished report.
- World Bank (2022). *The digital challenge for higher education in South Asia: A template to support higher education institutions to prepare for the next emergency*. Unpublished report, May 2022.
- Yin, R. Y. (2011). *Qualitative research from start to finish*. The Guilford Press; New York.
- Yoshida, K., Kitamura, Y., Razquin, P., & Tanaka, S. (2020). Educating girls and the marginalized in the digital and transformative innovation age: To make “Leaving no one behind” a reality. *Policy brief*, Task Force 6, *Economy, Employment, and Education in the Digital Age*. T 20, Saudi Arabia 2020 Think.
- Zajda, J. (2018). Globalisation and education reforms: Paradigms and ideologies. In J. Zajda (ed.), *Globalisation and education reforms: Paradigms and ideologies*. Springer; Dordrecht, The Netherlands.
- Zhang, Y., & Wildemuth, B. M. (2009). Unstructured interviews. In B. M. Wildemuth (Ed.), *Applications of Social Research Methods to Questions in Information and Library Science* (pp. 222–231). Libraries Unlimited.
- Zhang, W., Wang, Y., Yang, L., & Wang, C. (2020). Suspending classes without stopping learning: China's education emergency management policy in the COVID-19 outbreak. *Journal of Risk and Financial Management*, 13(55), 1-6. <https://doi.org/10.3390/jrfm13030055>
- Zheng, Y., & Stahl, B. C. (2011). Technology, capabilities and critical perspectives: What can critical theory contribute to Sen's capability approach? *Ethics and Information Technology*, 13(2), 69-80. doi:10.1007/s10676-011-9264-8

Appendices

Appendix 1: Ethics Approval

From: Liam Gearon <liam.gearon@education.ox.ac.uk>

Date: Monday, 21 March 2022 at 19:42

To: Abdul Hai Sofizada <abduhai.sofizada@education.ox.ac.uk>

Cc: Maia Chankseliani <maia.chankseliani@education.ox.ac.uk>, Student CUREC <student.curec@education.ox.ac.uk>

Subject: RE: CUREC

Dear Abdul, and Maia,

The impact of educational technology on female participation in higher education in Afghanistan

[Office to supply CUREC number if required]

The above application has been considered on behalf of the Departmental Research Ethics Committee (DREC) in accordance with the procedures laid down by the University for ethical approval of all research involving human participants.

Our prior discussion on this was very useful – an impressive team as ever, and project, vastly experienced, and a model of genuine care in relation to research ethics.

I am pleased to inform you, then, that, on the basis of the information provided to DREC, the proposed research has been judged as meeting appropriate ethical standards, and accordingly, approval has been granted.

Please continue to follow all current guidance issued by CUREC during the pandemic, notably COVID-19: CUREC guidance on research involving human participants, <https://researchsupport.admin.ox.ac.uk/governance/ethics/coronavirus>

If relevant please also check the CUREC website for their best practice research guides, these can be very useful in refining the writing up of ethical considerations in your research – see <https://researchsupport.admin.ox.ac.uk/governance/ethics/resources/bpg>

Good luck with your research study,

Keep well and safe,

Yours sincerely,

All good wishes,

Liam

Chair, DREC

Liam Francis Gearon, PhD, FHEA, FRSA, Docent



Senior Research Fellow, Harris Manchester College, University of Oxford

Associate Professor, Department of Education, University of Oxford

Conjoint Full Professor, Newcastle University, Australia

Docent, University of Helsinki, Finland

Extraordinary Professor, North-West University, South Africa

Visiting Professor, Irish Institute for Catholic Studies, MIC, Limerick, Ireland

Honorary Senior Research Fellow, School of Education, University of Birmingham

Appendix 2: Interview Questions in English and Persian (Faris)

English

Sample Interview Questions

Research Title: **“The Impact of Educational Technology on Female Participation in Higher Education in Afghanistan”**

Researcher: Abdul Hai Sofizada, MSc in Comparative and International Education

a) Sample interview questions for female university students

1. Please introduce yourself and tell me about the university course that you are studying? Which year of the university are you in or have you graduated?
2. What is/was the ratio of male and female students in your class?
3. Can you describe the main modes of teaching in your university and particularly in your course?
4. Have you faced any problems/challenges most recently or in the past in accessing or enrolling in university? If yes, what were some of the main problems?
5. How did you continue to study when universities closed due to the COVID-19 pandemic?
6. Were there any forms of online or hybrid teaching? If so, did you face any problems in availing yourself of online and hybrid teaching? What were some of these problems?
7. Did/do you see any differences between male and female students' abilities and opportunities to use educational technology in your learning process? Please describe.
8. Can you describe any instances in which educational technology has facilitated girls' access to university and teaching? This could be either due to the COVID-19 or other issues due to which girls were not able to attend the university in person. Any examples from your experience would be relevant and interesting to share.
9. In your opinion, what measures should be taken to expand the use of educational, information, and communication technology so that students – particularly girls – can access university education?
10. Can you cite any examples of how female students – such as your friends - in other universities have used educational technology to improve their access and participation in university education?
11. More generally, how do you describe your lecturers' capability in delivering classes by using educational technology?
12. Is there anything else that you would like me to tell me about female participation and access to higher education and the use of educational technology? Please describe.
13. Do you have any questions for me about this research topic?

b) Sample interview questions for the university academics

1. Kindly introduce yourself and tell me about your academic position/career as a faculty.

2. Have long have you been teaching, and which subject(s) are you teaching?
3. How do you describe the gender ratio amongst your students?
4. To which extent did you utilise educational technology (or Information Communication and Technology ICT), including online teaching, during the closure of universities due to the COVID-19 pandemic and other reasons? Please describe.
5. How do you describe students' access and familiarity with the educational technology and the new modes of learning, such as online and hybrid? Please describe more specifically the situation of female students. What is your understanding – if any – of the trends in other countries in the use of educational technology at universities?
6. How do you think female candidates/students would benefit from educational technology in accessing higher education? Please share your views and any specific situation that you can describe.
7. Have you taken any initiatives in the past either collectively or individually to improve female students' access to higher education or retention? Has your university taken any initiatives in the past or present to improve female enrolment and participation? These initiatives could be the impact and use of educational technology – such as during the university closures – or any other examples outside these circumstances? Please describe.
8. In your opinion, what societal and individual benefits can women who have acquired higher education impart?
9. Do you have any additional thoughts and views to share about the role of educational technology and how this can be applied as an instrument for strengthening female participation in Afghanistan? Could you recommend any technical, academic or policy advice?
10. Do you have any questions for me about this research topic?

c) Sample interview questions for the former senior officials of the Ministry of Higher Education

1. Kindly introduce yourself and please tell me about your past and present professional and academic career.
2. How long did you serve in the capacity of (.....) in the Ministry of Higher Education and (.....) University as an academic?
3. How do you assess the progress in the overall student enrolment between 2002 and 2021? Please describe some of the factors that contributed to the increase in enrolment and some of the barriers that hampered access.
4. How do you describe 'participation' in higher education? In your view, how is 'participation' best described conceptually and practically?
5. How do you assess/explain the gender enrolment, gender gaps, and participation ratio between male and female students across universities in Afghanistan? What were/are some of the key trends, findings, experiences and lessons learned?
6. What specific reforms did the Ministry introduce to increase and promote female enrolment and participation? Please describe.
7. In your view, what are/were some of the key barriers to female participation in higher education in Afghanistan? Please describe.
8. Can you cite and mention any sectoral strategy or plan for educational technology (or ICT) in the Afghanistan higher education?
9. In your opinion, what role can educational technology play to improve access to and participation in higher education, particularly for female candidates in Afghanistan?

Candidates refer to those who are already enrolled in universities and those who aspire to enter university education either in Afghanistan or abroad. Please share your views and describe the situation, considering the past and existing challenges, and the potential for future within a more positive outlook and perspective of the sector in Afghanistan.

10. I would appreciate if you could share your understanding of the trends, experiences and lessons learned on, a) female participation in higher education, and b) the role and impact of educational technology on access – particularly for women – and quality, in other country contexts. It would be very useful if you could cite some examples of countries or institutions that you know about, such as countries in Asia.
11. In your opinion, what societal and individual benefits can women who have acquired higher education impart?
12. What are your additional observations on how to improve female participation in higher education and mainstream the use of educational technology for teaching and learning? Your insight and recommendations for the future would be valuable. Let's consider these recommendations in light of the existing constraints and challenges as well as in the context of any potential improvement in the overall situation in the country, particularly higher education.
13. Do you have any questions for me related to this research topic?

Persian (Farsi)

نمونه پرسش‌های مصاحبه

عنوان پژوهش: تاثیر فناوری آموزشی بر مشارکت زنان در تحصیلات عالی در افغانستان
پژوهشگر: عبدالحی صوفی زاده، مقطع کارشناسی ارشد در رشته آموزش مقایسه‌ای و بین‌المللی

نمونه پرسش‌های مصاحبه برای دانشجویان دختر

1. خود را معرفی کنید و در باره‌ی رشته‌ی تحصیلی تان معلومات دهید؟ سال چندم دانشگاه هستید یا فارغ التحصیل شده اید؟
2. دانشجویان دختر و پسر در صنف شما به چه تعداد است/بود؟
3. شیوه‌های اصلی تدریس در دانشگاه تان و به ویژه در دوره شما چگونه بود؟
4. آیا در این نزدیکی‌ها یا در گذشته برای ورود یا ثبت نام در دانشگاه با مشکلی مواجه شده اید؟ اگر بله، مشکلات تان چه بود؟
5. زمانی که دانشگاه‌ها به دلیل همه گیری کوید-۱۹ تعطیل شدند، چگونه به تحصیل ادامه دادید؟
6. آیا کدام روش آموزش آنلاین یا ترکیبی وجود داشت؟ اگر چنین است، آیا برای استفاده از آموزش آنلاین و ترکیبی با مشکلی مواجه شدید؟ مشکلات تان چه ها بود؟

7. آیا تفاوتی بین توانایی‌ها و فرصت‌های دانشجویان دختر و پسر برای استفاده از فناوری آموزشی در پروسه یادگیری خود مشاهده کردید؟ لطفاً شرح دهید.
8. آیا می‌توانید مواردی را توضیح دهید که در آن فناوری آموزشی دسترسی دختران به دانشگاه و تدریس را تسهیل کرده باشد؟ این می‌تواند به دلیل کووید-۱۹ یا سایر مسائل باشد که به دلیل آن دختران نمی‌توانستند شخصاً در دانشگاه حضور یابند. هر نمونه‌ای از تجربه شما برای پژوهش ما موثر است.
9. به نظر شما برای گسترش استفاده از فناوری‌های آموزشی، اطلاعاتی و ارتباطی به منظور دسترسی دانشجویان به ویژه دختران به تحصیلات عالی چه اقداماتی باید انجام شود؟
10. آیا می‌توانید نمونه‌هایی از این که چگونه دانشجویان دختر - مانند دوستان شما - در سایر دانشگاه‌ها از فناوری آموزشی برای بهبود دسترسی و مشارکت خود در تحصیلات عالی استفاده کرده‌اند، ذکر کنید؟
11. به طور کلی، توانایی استادان خود را در ارائه درس‌ها با استفاده از فناوری آموزشی چگونه توصیف می‌کنید؟
12. آیا چیز دیگری در مورد مشارکت و دسترسی زنان به آموزش عالی و استفاده از فناوری آموزشی وجود دارد که بخواهید به من بگویید؟ لطفاً شرح دهید.
13. آیا در مورد این موضوع پژوهش از من سوالی دارید؟

نمونه پرسش‌های مصاحبه برای استادان دانشگاه

1. لطفاً خودتان را معرفی کنید و در مورد موقعیت علمی/شغلی خود به عنوان یک استاد دانشگاه معلومات دهید؟
2. چه مدتی است که تدریس می‌کنید و کدام رشته/مضمون را درس می‌دهید؟
3. به چه تعداد دختر و پسر دانشجو در صنف‌های تان حضور دارند؟
4. در زمان تعطیلی دانشگاه‌ها به دلیل همه‌گیری کووید-۱۹ و دلایل دیگر، تا چه اندازه از فناوری آموزشی (یا فناوری ارتباطات و اطلاعات) از جمله آموزش آنلاین استفاده کردید؟ لطفاً شرح دهید.
5. دسترسی و آشنایی دانشجویان با فناوری آموزشی و شیوه‌های جدید یادگیری مانند آنلاین و ترکیبی چگونه بود؟ لطفاً وضعیت دانشجویان دختر را در این مورد به طور خاص توضیح دهید. درک شما - در صورتی که وجود داشته باشد - از روند استفاده از فناوری آموزشی در سایر کشورها در دانشگاه‌ها چیست؟
6. به نظر شما دانشجویان دختر چگونه از فناوری آموزشی در دسترسی به آموزش عالی بهره‌مند می‌شوند؟ لطفاً نظر خود را شریک بسازید.
7. آیا در گذشته به صورت جمعی یا انفرادی ابتکاری برای بهبود دسترسی دانشجویان دختر به تحصیلات عالی یا حفظ آنها انجام داده‌اید؟ آیا دانشگاه شما در گذشته یا حال ابتکاری برای بهبود ثبت نام و مشارکت زنان انجام داده است؟ این ابتکارات می‌تواند تاثیر و استفاده از فناوری آموزشی باشد - مانند تعطیلی دانشگاه - یا هر نمونه دیگری؟ لطفاً شرح دهید.
8. به نظر شما، زنانی که به سطح عالی تحصیل کرده‌اند، چه مزایای اجتماعی و فردی می‌توانند داشته باشند؟

9. آیا در مورد نقش فناوری آموزشی و اینکه چگونه می توان از آن به عنوان ابزاری برای تقویت مشارکت زنان در افغانستان استفاده کرد، نظر و دیدگاه دیگری دارید؟ اگر مشاوره فنی، آکادمیک یا راهبردی دارید با ما شریک سازید.

10. آیا در مورد این موضوع تحقیق از من پرسشی دارید؟

نمونه پرسش مصاحبه برای مقامات ارشد سابق وزارت تحصیلات عالی

1. لطفاً خود را معرفی کنید و از گذشته و حال حرفه ای و تحصیلی خود بگویید.
2. چه مدت در سمت (.....) در وزارت تحصیلات عالی و (.....) دانشگاه به عنوان یک دانشگاهی خدمت کردید؟
3. یسرفت در ثبت نام کلی دانشجویان بین سال های ۲۰۰۲ و ۲۰۲۱ را چگونه ارزیابی می کنید؟ لطفاً برخی از عواملی که در افزایش ثبت نام و برخی از موانعی که دسترسی را با مشکل مواجه کرده اند، توضیح دهید.
4. مشارکت زنان و مردان در تحصیلات عالی را چگونه توصیف میکنید؟ به نظر شما، «مشارکت» چگونه از نظر مفهومی و عملی به بهترین شکل توصیف می شود؟
5. ثبت نام دانشجویان از لحاظ جنسیتی، شکاف های جنسیتی، و نسبت مشارکت بین دانشجویان دختر و پسر در دانشگاه های افغانستان را چگونه ارزیابی می کنید؟ برخی از یافته ها، تجربیات و درس های کلیدی چه بودند/هستند؟
6. وزارت تحصیلات عالی چه اصلاحات ویژه ای را برای افزایش و ارتقای ثبت نام و مشارکت زنان ارایه کرده است؟ لطفاً شرح دهید.
7. به نظر شما، برخی از موانع اصلی مشارکت زنان در تحصیلات عالی در افغانستان چیست؟ لطفاً شرح دهید.
8. آیا می توانید استراتژی یا پلان سکتوری را برای فناوری آموزشی در تحصیلات عالی افغانستان ذکر کنید؟
9. به نظر شما، تکنالوژی آموزشی چه نقشی می تواند برای بهبود دسترسی و مشارکت در تحصیلات عالی، به ویژه برای نامزدهای زن در افغانستان ایفا کند؟ نامزدها به کسانی اطلاق می شوند که قبلاً در دانشگاه ها ثبت نام کرده اند و کسانی که خواهش ورود به تحصیلات عالی در افغانستان یا خارج از کشور را دارند. لطفاً نظرات خود را به اشتراک بگذارید و وضعیت را با در نظر گرفتن چالش های گذشته و موجود و پتانسیل آینده را در چشم انداز مثبت تر در افغانستان شرح دهید.
10. اگر بتوانید درک خود را از روندها، تجارب و درس های آموخته شده در مورد، الف) مشارکت زنان در آموزش عالی، و ب) نقش و تأثیر فناوری آموزشی برای دسترسی - به ویژه برای زنان - و کیفیت، به اشتراک بگذارید سپاسگزارم. نمونه هایی از کشورها یا مؤسساتی را که در مورد آنها معلومات دارید نیز بیان کنید.
11. به نظر شما، زنانی که به سطح عالی تحصیل کرده اند، چه مزایای اجتماعی و فردی می توانند داشته باشند؟
12. مشاهدات اضافی شما در مورد چگونگی بهبود مشارکت زنان در آموزش عالی و جریان اصلی استفاده از فناوری آموزشی برای آموزش و یادگیری چیست؟ بینش و توصیه های شما برای آینده ارزشمند خواهد بود. لطفاً این

توصیه‌ها را با توجه به محدودیت‌ها و چالش‌های موجود و همچنین در زمینه هرگونه بهبود بالقوه در وضعیت کلی کشور، به‌ویژه تحصیلات عالی، در نظر بگیرید.

13. آیا در رابطه با این پژوهش از من پرسشی دارید؟

Appendix 3: Participation Information Sheet

English

Participant Information Sheet

“The Impact of Educational Technology on Female Participation in Higher Education in Afghanistan”

Central University Research Ethics Committee (CUREC) Approval Reference:

1. Why is this research being conducted?

The aim of the research is to understand and discuss the impact of educational technology on female participation in the higher education sector in Afghanistan. The underlying imperative for participation is access to higher education. The main research question is “What impact can educational technology have on women’s participation in higher education in Afghanistan?”

Female access to education – particularly higher education – in Afghanistan is a compelling case and one that has historically been a debate. The challenges posed due to the pandemic, insecurity and closure of public higher education institutions for several months since 2021 have exacerbated those conditions for access to higher education, mainly for girls. Other factors such as poverty, social/cultural barriers and supply-side shortfalls have only reduced the opportunities for women to participate in higher education. With the advance of educational technology, it has become critical to understand the context within which women’s participation in higher education can be improved. Universities also witness attritions due to a host of problems amongst female students. Besides the low female enrolment, the percentage of female academics is significantly lower than that of male academics. These issues will be discussed in detail through the above-mentioned research question.

2. Why have I been invited to take part?

(Example: To the student participant) You have been invited because you are a current female student. Your insight and experience of educational technology and how this has helped your participation in higher education in Afghanistan will be valuable and relevant.

(Example: To the university academic participant) You have been invited because you are currently teaching Computer Science at a public university. Your insight and experience of the application of educational technology in teaching and how this has helped to facilitate access to learning by female students would be a valuable contribution to this research.

3. Do I have to take part?

No. You can ask further questions about the research before you take a decision. It is up to you to decide whether to take part based on the information that I have provided about the research. You can withdraw yourself from the study, without giving a reason by advising me of this decision. The deadline by which you can withdraw any information you have contributed to the research is 15th of June 2022. If you decide to withdraw, any data gathered from you will be omitted from the research.

4. What will happen to me if I take part in the research?

If you wish and are happy to take part, we will meet virtually to conduct an interview at a mutually convenient time. The interview duration will be approximately one hour during which you can let me know if you would like to pause or ask me questions if you have any. If you give me your consent, the interview will be audio recorded via Microsoft Teams, Whatsapp or any other suitable virtual platform so that I do not get distracted by taking notes manually. Please note that any information, including the audio recording of the interview, will be stored and utilised with due attention to your confidentiality.

5. What are the possible disadvantages and risks in taking part?

The research does not predict any disadvantages or risks for you. Your identity and the data you will provide will not be shared with other participants. To reduce any risks, your responses will be pseudonymised.

6. Are there any benefits in taking part?

Any key findings from the research will contribute to better understanding for the service providers as well as the beneficiaries of higher education in Afghanistan– especially female students – on how to improve participation in the sector using educational technology.

7. What information will be collected and why is the collection of this information relevant for achieving the research objectives?

(To the student) As a student, the first-hand information that you will share will be used as the data for the research. Your information will be your experience about participation in higher education and whether the application of educational technology has had an impact on female access to higher education. This data is relevant and directly linked to my analysis and to the research focus/topic.

8. Will the research be published? Could I be identified from any publications or other research outputs?

The findings from the research will be written up in a dissertation that will be submitted to the University of Oxford. Depending on the rigour and academic quality of the research, part of the dissertation may be published in an academic journal. If not, an online copy of the dissertation will be stored on the University of Oxford research repository.

9. *Optional: to be included if the research is externally funded: Who is funding the research?*

N/A

10. Who has reviewed this study?

This study has received ethics approval from a subcommittee of the University of Oxford Central University Research Ethics Committee. (Ethics reference:).

11. Who do I contact if I have a concern about the research or I wish to complain?

If you have a concern about any aspect of this study, please contact abdulhai.sofizada@education.ox.ac.uk or maia.chankseliani@education.ox.ac.uk, and we will do our best to answer your query. I/we will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible: The Chair, Social Sciences & Humanities Interdivisional Research Ethics Committee; Email: ethics@socsci.ox.ac.uk; Address: Research Services, University of Oxford, Boundary Brook House, Churchill Drive, Headington, Oxford OX3 7GB

12. Further Information and Contact Details

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact me at the following address:

Abdul Hai Sofizada
Department of Education
University of Oxford
15 Norham Gardens
Oxford
OX2 6DQ
abdulhai.sofizada@education.ox.ac.uk

Persian (Dari)

برگه معلومات اشتراک کننده

تأثیر فناوری آموزشی بر مشارکت زنان در تحصیلات عالی در افغانستان تایید شده از سوی کمیته اخلاق پژوهشی دانشگاه مرکزی

1. چرا این پژوهش صورت میگیرد؟

هدف از انجام این پژوهش درک و بحث پیرامون تأثیر فناوری آموزشی بر مشارکت زنان در بخش تحصیلات عالی در افغانستان بوده و نیاز اساسی مشارکت، دسترسی به تحصیلات عالی است. پرسش اساسی این پژوهش این است که "فناوری آموزشی چه تأثیری می تواند بر مشارکت زنان در تحصیلات عالی در افغانستان داشته باشد؟"

دسترسی زنان به آموزش به ویژه تحصیلات عالی در افغانستان یک مساله لازمی و از لحاظ تاریخی همواره مورد بحث بوده است. چالش های ناشی از همه گیری کرونا، ناامنی ها و فروپاشی/تعطیلی های چندین ماهه موسسات تحصیلات عالی در افغانستان در سال ۲۰۲۱ شرایط دسترسی به آموزش و تحصیلات عالی را به ویژه برای دختران دشوارتر کرده است. برخی از عوامل دیگر مانند فقر اقتصادی و موانع فرهنگی و اجتماعی نیز در کاهش حضور زنان در سکتور تحصیلات تأثیرگذار بوده است.

با پیشرفت فناوری آموزشی، درک زمینه ای که در آن مشارکت زنان در تحصیلات عالی میتواند بهبود یابد بسیار مهم است. از سوی هم به دلیل موجودیت مشکلات بی شمار میان دانشجویان دختر، دانشگاه ها با فرسودگی مواجه شده اند. علاوه بر پایین بودن سطح ثبت نام بانوان، درصدی زنان دانشگاهی نسبت به مردان کمتر است. این موضوعات به جزییات از طریق مصاحبه ها در این پژوهش بررسی خواهد شد.

2. چرا از من دعوت شده است که در این پژوهش سهم بگیرم؟

(مثال: به دانشجوی شرکت کننده) شما از این که یک دانشجوی دختر هستید از شما دعوت شده است در این پژوهش سهم بگیرید. بینش و تجربه شما در باره این که فناوری آموزشی در مشارکت شما در تحصیلات عالی افغانستان چه تأثیری داشته است ارزشمند و مرتبط خواهد بود.

(مثال: به استاد دانشگاه) از این که شما اکنون در دانشگاه مشغول تدریس علوم کامپیوتر هستید دعوت شده است در این پژوهش سهم بگیرید. بینش و تجربه شما از کاربرد فناوری آموزشی در تدریس و اینکه این امر چگونه دسترسی دانشجویان دختر را به آموزش تسهیل کرده است کمک خواهد بود.

3. آیا من ناگزیر هستم در این پژوهش سهم بگیرم؟

نه. پیش از هرگونه تصمیم گیری میتوانید پرسش های بیشتری در مورد این پژوهش پرسید. شما به اساس اطلاعاتی که من پیرامون این پژوهش برای تان پیشکش میکنم تصمیم میگیرید که شرکت کنید یا نه. از سوی هم شما میتوانید اطلاعاتی را که با من شریک ساخته اید بدون آرایه کدام دلیل پس بگیرید. آخرین مهلت برای واپس گیری اطلاعات ۱۵ جون ۲۰۲۲ است. اطلاعات واپس گرفته شده از پژوهش حذف خواهند شد.

4. اگر در این پژوهش شرکت کنیم برایم چه اتفاقی خواهد افتاد؟
اگر میخواهید در این پژوهش شرکت کنید ما به صورت مجازی در یک زمان مناسب با شما مصاحبه میکنیم. مدت زمان مصاحبه تقریباً یک ساعت خواهد بود. در جریان مصاحبه شما اگر خواستید میتوانید در صورت داشتن سوال وقفه بگیرید. اگر شما راضی باشید مصاحبه را از طریق Microsoft Teams، Whatsapp یا پلتفرم دیگری ضبط میکنیم تا هنگام نوشتن به ما کمک کند. به یاد داشته باشید که هرگونه اطلاعات تان از جمله فایل صوتی مصاحبه به گونه محرم ذخیره و استفاده خواهد شد.
 5. معایب و خطرهای احتمالی شرکت کردن به این پژوهش چیست؟
این تحقیق هیچگونه ضرر یا خطری را برای شما در پی نخواهد داشت. هویت شما و اطلاعات داده شما با هیچ شرکت کننده دیگر در میان گذاشته نخواهد شد. برای کاهش هرگونه خطر احتمالی پاسخهای شما با نام مستعار استفاده میشوند.
 6. آیا شرکت کردن در این پژوهش مزایایی دارد؟
هرگونه یافتههای کلیدی این پژوهش به درک بهتر برای ارایه دهندگان خدمات و همچنین بهره برداران تحصیلات عالی در افغانستان، به ویژه دانشجویان دختر در مورد بهبود وضعیت مشارکت در تحصیلات عالی با استفاده از فناوری آموزشی کمک کننده است.
 7. چه اطلاعاتی جمع آوری خواهد شد و چرا جمع آوری این اطلاعات برای دستیابی به اهداف این پژوهش مرتبط است؟
(به دانشجو) به عنوان یک دانشجو، همه اطلاعات دست اولی را که شریک میسازید به عنوان دادههای تحقیق استفاده خواهد شد. اطلاعات و تجربه شما در مورد شرکت در تحصیلات عالی و اینکه آیا استفاده از فناوری آموزشی تأثیری بر دسترسی زنان به تحصیلات عالی داشته است یا خیر خواهد بود. این دادهها مرتبط و مستقیماً به تجزیه و تحلیل من و با تمرکز به موضوع تحقیق مرتبط است.
 8. آیا تحقیق منتشر خواهد شد؟ آیا من در هر نشریه و اسناد پژوهشی قابل شناسایی خواهم بود؟
یافتههای این پژوهش در پایاننامه ای نوشته میشود که پس از تهیه به دانشگاه آکسفورد ارسال میشود. نشر این پژوهش بستگی به دقت و کیفیت علمی تحقیق دارد و بخشی از پایان نامه ممکن است در یک مجله دانشگاهی منتشر شود. در غیر آن یک نسخه آنلاین از پایان نامه در آرشیف/مخزن تحقیقاتی دانشگاه آکسفورد ذخیره میشود.
 9. اختیاری: در صورتی که پژوهش از خارج تامین مالی شود منابع آن در تحقیق ذکر میشود: چه کسی بودجه تحقیق را تامین می کند؟
نه
 10. چه کسی این پژوهش را بررسی میکند؟
این پژوهش از سوی کمیته فرعی اخلاق پژوهشی دانشگاه مرکزی دانشگاه آکسفورد تایید شده است.
 11. اگر در مورد تحقیق نگرانی داشته باشم یا بخواهم شکایت کنم، با چه کسی تماس بگیرم؟
اگر پیرامون هر مساله در رابطه با این پژوهش نگرانی دارید با abduhai.sofizada@education.ox.ac.uk یا maia.chankseliani@education.ox.ac.uk تماس بگیرید. ما تلاش میکنیم به نگرانیهای تان در مدت ۱۰ روز کاری پاسخ بدهیم. در صورتی که رضایت نداشته باشید لطفاً با رئیس کمیته اخلاق پژوهش در دانشگاه آکسفورد تماس بگیرید تا به زودترین فرصت موضوع را حل و فصل کند.
- رئیس کمیته اخلاق پژوهشی بین بخشی علوم اجتماعی و انسانی؛ ایمیل: ethics@socsci.ox.ac.uk

آدرس: (Research Services, University of Oxford, Boundary Brook House, Churchill
(Drive, Headington, Oxford OX3 7GB

12. اطلاعات بیشتر و نشانی تماس

اگر مایلید از قبل در مورد تحقیق با کسی صحبت کنید (یا اگر بعد از آن پرسشی دارید)، لطفاً با آدرس زیر با
من تماس بگیرید:

عبدالحی صوفی زاده

Department of Education

University of Oxford

15 Norham Gardens

Oxford

OX2 6DQ

abdulhai.sofizada@education.ox.ac.uk

Appendix 4: Participant Recruitment Email

Participant Invitation Letter/Email

English

Dear (),

I have been given your details by () and am reaching out to you regarding my research.

I am currently a student of the Master of Science in Education (Comparative and International Education) at the University of Oxford, United Kingdom. My research topic is to discuss the impact of educational technology on female participation in higher education in Afghanistan. As part of this research, I will engage with some of the previous senior policy makers in higher education, academics, female student graduate and current students. My research will involve interviews that will be conducted with the prior consent of the participants. The interviews will include questions that will be tailored to the profile of the participant interviewee and conducted using a suitable virtual platform such as Whatsapp (audio/video) and Microsoft Teams.

I would appreciate your availability to participate in this research and look forward to hearing from you. Attached is a copy of the Research Information Sheet. Should you have any further questions or need clarification, please do not hesitate to write to me at my email address abdulhai.sofizada@education.ox.ac.uk.

Thank you and regards,
Abdul Hai Sofizada

Persian (Dari)

دعوت نامه

() گرامی درود!

من آدرس و مشخصات شما را از () دریافت کرده ام و در رابطه با پژوهشی با شما تماس میگیرم.

من اکنون دانشجوی مقطع کارشناسی ارشد در رشته آموزش مقایسه‌ای و بین المللی در دانشگاه اکسفورد انگلستان هستم. موضوع پژوهش من بحث پیرامون تاثیر فناوری آموزشی بر مشارکت زنان در تحصیلات عالی در افغانستان است.

به عنوان بخشی از این تحقیق، من با برخی از سیاست گذاران ارشد قبلی در سکتور تحصیلات عالی، استادان دانشگاه‌ها، دانشجویان دختر فارغ التحصیل و دانشجویان کنونی در تماس هستم. پژوهش من شامل مصاحبه‌هایی خواهد بود که با رضایت قبلی شرکت کنندگان انجام خواهد شد. پرسش‌های که در جریان مصاحبه‌ها قرار است مطرح شوند طبق مشخصات مصاحبه شونده‌ها طرح شده اند که به گونه مجازی از طریق Whatsapp و Microsoft Teams با صدا و تصویر صورت خواهند گرفت.

از این که برای اجرای این پژوهش در دسترس هستید سپاسگزارم و مشتاقانه منتظر دریافت دیدگاه‌تان هستم. در پیوست با این دعوت‌نامه/ایمیل یک نسخه از برگه اطلاعات پژوهش را نیز برای معلومات بیشتر تان گذاشته ام. اگر کدام پرسشی دارید و یا به دریافت توضیحات بیشتر نیاز دارید لطفاً به این نشانی به من ایمیل بفرستید.

abdulhai.sofizada@education.ox.ac.uk

با سپاس بی‌کران
عبدالحی صوفی‌زاده

Appendix 5: Oral Consent Form

English

Oral Consent Form

Research Title: “**The Impact of Educational Technology on Female Participation in Higher Education in Afghanistan**”

Researcher: Abdul Hai Sofizada, MSc in Comparative and International Education

Introduction: Hello again, my name is Abdul Hai Sofizada. I am currently a Masters student at the University of Oxford in the Department of Education.

- **Research aims:** In my study, I want to investigate the impact of educational technology on female participation in higher education in Afghanistan. I am interested in whether and how educational technology has affected access and participation, more specifically, of women in higher education. If you choose to be a part of this project, here is what will happen:
- **Interviews (student):** I will have a conversation with you where I will ask a range of questions about your study programme, your year of university, the extent to which you have been using educational technology, whether this technology has facilitated your participation in higher education or what constraints are created.
- **Interview (university academic):** I will have a conversation with you where I will ask a range of questions about your academic the subject(s) that your teaching, the application of educational technology in teaching, the ratio of male and female students using technology, your teaching experience in new modes during the COVID-19 pandemic and closure of universities, and whether introduction of technology has facilitated student access and participation – particularly girls – in university.
- **Interview (senior government official):** I will have conversation with you where I will ask a series of questions regarding your tenure and position in the Ministry of Higher Education, participation trend in higher education since 2002, gender gaps, policy decisions on utilisation of educational technology in teaching and learning, any specific initiatives as a result of COVID-19 or other key barriers to universities especially for girls, and any recent regional or global practices to build on.
- **Data sharing and confidentiality:** The answers you give will form the basis of my Masters dissertation. On a practical level, only my dissertation supervisor and I will have access to the information that you are sharing.
- **Data storage:** I will store your data safely and confidentially in the university provided cloud storage and my personal cloud storage account that is safeguarded with

the two-factor identification. I intend to retain the research data for three years after publication.

- **Audio/ video recording**: With your permission, I would like to have an audio/video recording of our conversation to make sure I am getting an accurate record of the interview with you. Instead of recording you, I can take notes in my notebook. Which would you prefer?
- **Keeping contact details**: I would also like your permission to keep your contact details so that I can re-contact you to clarify information you gave me in your interview.
- **How identifiable you will be**: If you wish, your identity can be pseudonymised.
- **Risks**: If you find any aspects of the interview or the questions distressing or difficult to answer, please indicate so. You can choose not to answer any such aspects of the interview, pause for a break or stop the interview. In order to reduce any potential risks, I will keep your participation confidential.
- **Rights**: You don't have to take part; you can ask me any questions you want before or throughout the interview; you can also withdraw at any stage of the interview without giving a reason. After the interview you can withdraw your information until 15th June 2022 if you predict any issues.
- **Publication plans**: The project will be published in a dissertation. Any other forms of publication such as a journal article or used for doctoral studies will be determined later and are not decided at this point. A copy of my dissertation will be deposited both in print and online in the University archives.
- **Complaints/ concerns procedure**: If you have any complaints or concerns, please feel free to contact me. You can also reach me at abdulhai.sofizada@education.ox.ac.uk.
- **Ethics review details**: This research project has been reviewed and approved by an Oxford University ethics committee. The ethics reference is [.....]. If, after contacting me with any concern, you're still unhappy and wish to make a formal complaint, please contact the ethics committee at ethics@socsci.ox.ac.uk.
- **Data Protection statement**: The University of Oxford is responsible overall for ensuring the safe and proper use of any personal information you provide, solely for research purposes. Further information about your rights to information you provide is available from the University's data protection website. <https://compliance.web.ox.ac.uk/individual-rights> .
- **Questions/ concerns**: Do you have any questions? Do you give your permission for me to interview you/ take your photo/ video/ audio record you? Do you give permission for me to re-contact you to clarify information? Do you give me permission to quote you directly without identifying you? Are you happy to take part?

Ok, thanks, let's start.

Persian (Farsi)

شفاهی

عنوان پژوهش: "تأثیر فناوری آموزشی بر مشارکت زنان در تحصیلات عالی در افغانستان"

پژوهشگر: عبدالحی صوفی زاده، مقطع کارشناسی ارشد در رشته آموزش مقایسه‌ای و بین المللی

معرفی: درود و سلام، من عبدالحی صوفی زاده دانشجوی مقطع ماستری در دانشکده تعلیم و تربیه در دانشگاه اکسفورد هستم.

هدف پژوهش: در این پژوهش، من می‌خواهم تأثیر فناوری آموزشی بر مشارکت زنان در تحصیلات عالی در افغانستان را بررسی کنم. من می‌خواهم دریابم که چگونه فناوری آموزشی بر دسترسی و مشارکت زنان در تحصیلات عالی تأثیر گذاشته است. اگر می‌خواهید که بخشی از این پروژه باشید، به موارد زیر توجه کنید:

- **مصاحبه (دانشجو):** من با شما گفتگویی خواهم داشت که در آن بخش وسیعی از سوالات در مورد مسایلی چون برنامه تحصیلی، سال تحصیلی، میزان استفاده شما از فناوری آموزشی و اینکه آیا فناوری مشارکت شما را در تحصیلات عالی آسان ساخته یا محدودیت‌های را ایجاد کرده است می‌باشد.
- **مصاحبه (استاد دانشگاه):** گفتگوی من با شما بیشتر پیرامون موضوعات علمی، تدریس، کاربرد فناوری آموزشی در تدریس، تعداد دانشجویان دختر و پسر که از فناوری آموزشی استفاده می‌کنند، خواهد بود. همچنین موضوعاتی چون فن‌آوری، تجربه تدریس شما در حالت‌های جدید در طول همه‌گیری کووید-۱۹ و تعطیلی دانشگاه‌ها، و اینکه آیا کاربرد فناوری دسترسی و مشارکت دانشجویان - به‌ویژه دختران - را در دانشگاه تسهیل کرده است یا خیر نیز بخشی از گفتگوهای ما خواهد بود.
- **مصاحبه (مقام ارشد دولتی):** در این گفتگو سوالات در رابطه با سمت شما در وزارت تحصیلات عالی، روند مشارکت در تحصیلات عالی از سال ۲۰۰۲، شکاف‌های جنسیتی، پالیسی‌ها در مورد استفاده از فناوری آموزشی در روند تدریس و آموزش، ابتکارات خاص در نتیجه همه‌گیری کووید-۱۹ یا برخی از موانع کلیدی برای دانشگاه‌ها، به ویژه برای دختران، و سایر تجارب منطقه‌ای و جهانی خواهد بود.
- **شریک ساختن و محرمانه‌سازی اطلاعات:** پاسخ‌هایی که می‌دهید اساس پایان‌نامه کارشناسی ارشد من را تشکیل می‌دهد. در سطح عملی، فقط من و استاد راهنمای پایان‌نامه ام به اطلاعاتی که شما به اشتراک می‌گذارید دسترسی خواهیم داشت.
- **ذخیره سازی اطلاعات:** اطلاعاتی را که شما به من شریک می‌سازید به صورت ایمن و محرمانه در فضای ذخیره سازی ابری یا Cloud Storage که از سوی دانشگاه فراهم شده است و تنها توسط حساب کاربری شخص خودم قابل دسترس است ذخیره می‌شود. این اطلاعات را برای سه سال پس از انتشار نگه می‌دارم.
- **ضبط صوتی/تصویری:** با اجازه شما، می‌خواهم یک ضبط صوتی/تصویری از گفتگو با شما داشته باشم تا با اطمینان از اطلاعات تان استفاده کنم. همچنین می‌توانم گفتگو با شما را یادداشت کنم. با هر روشی که شما بآن راحت باشید.
- **حفظ اطلاعات تماس:** با اجازه شما اطلاعات تماس تان را حفظ می‌کنم تا در صورت نیاز بتوانم مجدداً با شما تماس گرفته و اطلاعاتی را که در مصاحبه به من شریک ساخته اید به گونه واضح و روشن انعکاس دهم.
- **چقدر قابل شناسایی خواهید بود:** در صورت تمایل، هویت شما می‌تواند مستعار باشد.
- **خطرات:** اگر بخش‌های مصاحبه یا سؤالات را ناراحت‌کننده یا دشوار می‌دانید، لطفاً به آن اشاره کنید. شما اختیار دارید که به همچو جنبه‌هایی از مصاحبه پاسخ ندهید، همچنین در جریان گفتگو می‌توانید استراحت/مکث کنید یا مصاحبه را متوقف کنید. به منظور کاهش خطرات احتمالی، شرکت شما را در این پژوهش محرم نگه می‌دارم.

- **حقوق:** شما مجبور نیستید در این پژوهش شرکت کنید. شما می توانید هر مساله‌ی را که می خواهید قبل یا در طول مصاحبه از من بپرسید. همچنین می توانید در هر مرحله از مصاحبه بدون ذکر دلیل منصرف شوید. پس از مصاحبه، در صورت پیش بینی هرگونه مشکلی، می توانید اطلاعات خود را تا ۱۵ جون ۲۰۲۲ پس بگیرید.
- **پلان انتشار:** این پژوهش در پایان نامه ام منتشر خواهد شد. سایر اشکال انتشار مانند مقاله ژورنالی یا مورد استفاده برای مطالعات دکترا بعداً مشخص می شود و در این مرحله تصمیم گیری نمی شود. یک نسخه از پایان نامه من به صورت چاپی و آنلاین در آرشیف دانشگاه سپرده خواهد شد.
- **روند شکایات / نگرانی ها:** اگر از روش پژوهش و هر مساله پیرامون این پروژه شکایت یا نگرانی داشتید، لطفاً به ایمیل آدرس abdulhai.sofizada@education.ox.ac.uk با من تماس بگیرید.
- **بررسی اخلاقی:** این پروژه تحقیقاتی توسط کمیته اخلاق دانشگاه آکسفورد بررسی و تایید شده است. مرجع اخلاق [.....] است. اگر پس از تماس با من در مورد هرگونه نگرانی، همچنان ناراضی بودید و می خواستید شکایت رسمی داشته باشید، لطفاً با کمیته اخلاق به آدرس ethics@socsci.ox.ac.uk تماس بگیرید.
- **بیانیه حفاظت از اطلاعات:** دانشگاه آکسفورد به طور کلی مسئول اطمینان از استفاده ایمن و مناسب از اطلاعات شخصی ارایه شده شما برای اهداف تحقیقاتی است. جزییات بیشتر در مورد حقوق شما برای اطلاعاتی که ارائه می کنید در وب سایت حفاظت از داده‌های دانشگاه قابل دسترس است.
<https://compliance.web.ox.ac.uk/individual-rights>
- **سؤالات / نگرانی ها:** آیا سؤالی دارید؟ آیا به من اجازه می دهید که با شما مصاحبه کنم / عکس / ویدیو / و یا صدای شما را ضبط کنم؟ آیا به من اجازه می دهید که دوباره با شما تماس بگیرم تا اطلاعات را روشن کنم؟ آیا به من اجازه می دهی بدون شناسایی شما مستقیماً از شما نقل قول کنم؟ آیا از شرکت کردن راضی هستید؟

سپاس فراوان، بیايید به گفتگو آغاز کنیم.