Education policies of Pakistan: A critical discourse analysis for the implementation of ICTs in the education sector

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Declaration

This thesis results entirely from my own work and has not been offered previously for any other degree or diploma.

The word length of the thesis does not exceed the permitted maximum length of 50,000 words plus grace.

Signature .....

Acknowledgment

I would first like to thank Allah, all praises for Him;

رَبِّ اَوۡزِعۡنِیۡۤ اَنۡ اَشۡکُرَ نِعۡمَتَکَ الَّتِیۡۤ اَنۡعَمۡتَ عَلَیَّ وَعَلٰی وَالِدَیَّ وَاَنۡ اَعۡمَلَ صَالِحًا تَرۡضٰىهُ

(Thank you, God, for granting me and my family your blessings and I hope to always seek goodness with my work) Quran: Surah 46- Al-Ahqaf verse 15.

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Contents

List of abbreviations

KPK	Khyber Pakhtunkhwa, Pakistan's Provence; previously known as North-West Frontier Provence (NWFP)
ICT/ ICTs	Information and Communication Technology(ies)
HEC	Higher Education Commission
NEP/ NEPs	National Education Policy
UK	United Kingdom
CDA	Critical Discourse Analysis

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Abstract

The aim of this research was to fill the gap in the literature, and to provide a knowledge base on the integration of Information and Communication Technologies in the Higher Education sector. This qualitative research utilised Critical Discourse Analysis (Fairclough, 2003) as a theoretical framework to understand the reality of the integration of technology in Khyber Pakhtunkhwa province of Pakistan. This study aimed to answer two over-arching questions about Information and Communication Technologies (ICTs) integration. Pakistan does not have a dedicated stand-alone ICTs policy for education hence the National Education Policy of Pakistan relating to Higher Education was the choice for data collection; in terms of ICTs in higher education what national education policy implies and how it is employed. Two types of data were analysed to answer the research questions, the first type of data was from the latest two education policy documents, as in Pakistan ICTs were not included in any education policy before 2009, therefore National Education Policy 2009, and 2017, were analysed. Secondly, interviews were conducted with eleven different Higher Education providers in Khyber Pakhtunkhwa, including university affiliated colleges, schools, institutes, and departments. The interviewees included a random selection of heads of the institutes, directors and coordinators of the courses, administration staff dealing with technology implementation in the university, and teachers using technology in the classroom. Both the types of data were analysed using the three levels of Critical Discourse Analysis proposed by Norman Fairclough (2001), i.e., micro level, meso level, and macro level. The findings include some new discoveries in Pakistani context and affirmed some already established facts from literature. We are aware that Pakistan has not yet published an ICTs policy in the education sector, and neither any of its National Education Policy have been successful. The findings showed the policy making is weak as it does not include stakeholders, policy formulation lack research, the dissemination process is ineffective, which leads to no implementation, and there is a lack of feedback for new policy formulation. Other findings which corresponded with the some other countries, which are contextually related to Pakistan presented in the literature were low accountability, embezzlement of funds and resources, and insufficient support for teachers, leading to no

implementation of ICTs related policy. The conclusive suggestion was that the situation can be improved between policy and its implementation with a proposed 'implementation strategy' through an action continuum which revises the data for improvements in a spiral of development. It comprised of six dimensions to influence the policy implementation and encourage improved results. The study concluded with presenting the limitations of the study and reflection of the researcher on the whole research process.

Keywords: *Education Policy of Pakistan; Policy implementation; Critical Discourse Analysis; ICT integration; implementation strategy*

Chapter 1: Introduction

1.1. Introduction

This research was perceived to fill in a gap in the literature specific to a developing country, i.e., Pakistan. This also provide knowledge base on the integration of Information and Communication Technologies (ICTs) in the Higher Education sector in Khyber Pakhtunkhwa (KPK hereafter) province of Pakistan. The two over-arching questions of this study were about the integration of ICTs in Higher education and two types of data was collected to answer these questions. The analysis was done through Critical Discourse Analysis (Fairclough, 2001).

This chapter details how technologies have become part of our lives, however it's transition in education is at varying degrees in different contexts. This research aimed to investigate the precedent seen in developing countries similar to Pakistan contextually, the place of technology in education: what Government policies state about them, and how the technology transitions at institutional level. In this chapter, the global perspective, and the contextual perceptions of the technology in KPK province of Pakistan are discussed.

1.2. Research Background: Global perspective

Technology is the part of everyday life in the 21st century and has made its way to education. To talk about where and how it all started can be a very lengthy discussion: Thomas Edison predicted that the invention of projector will lead to every teacher having it in their classroom can be called as the start of technology in education (Allen, 2008). However, the technology has tremendously changed and improved over the years; the days of a fountain pen considered to be technology has long gone. In recent years, Information and Communication Technologies (ICTs) have entered the classrooms, and a smart phone, laptop, or tablet in classrooms are nothing out of the ordinary and although student engagement with technologies is highly complex (Bhatt et al., 2015), nevertheless, it is making a tremendous impact on students' lives today (Hur et al., 2016).

Globally, technology in education is considered such a familiar feature of educational landscape that its use in educational settings is a commonplace occurrence (Selwyn, 2016). The impacts of technology used in classrooms have been widely researched, and some suggest that "that technology use(d) with clear objectives and appropriate pedagogical methods positively affect(ed) student learning" (Hur et al., p 105, 2016). Although it's not without flaws (McKnight et al. 2016) still the technologies are being adopted and incorporated into our daily lives and in our educational system without hesitation and "particularly ICTs which has the potential to change the way teaching and learning are carried out in the classroom" (Lawrence and Tar, p 80, 2018). McKnight et al. (2016) report that in June 2013, the then American president Obama announced a five-year plan to connect 99% of American schools to internet. Research (Allen, 2008; Hur et al., 2016; McKnight et al. 2016; Lawrence and Tar, 2018) suggest that the technology in education has compelled us to acknowledge a global context of education where society has multicultural and constant transformation, and addition of technologies at personal, professional, and institutional levels are enhancing educational environments in dramatic ways.

An industry report projected an estimated value of $252 billion for the global Ed-tech industry by 2020 for ICTs application that aims for education (Escueta et al., 2017). However, it is understandable that these estimates are global, and they translate differently in various areas of the world. The research around the world suggests the varying scales: a study by Ukpe (2013) suggests that while developed nations have more spend on ICT in education, on the other hand the developing countries struggle with the strategy. According to his research the United States spends of 8.9%, 10.0% in the UK, 9.4% in Singapore and 9.2% in Australia, of their respective GDPs on technology in education, however developing countries like Nigeria spend about 0.44% of its already smaller budget, less than 4% was spend in Nepal in 2017/18 (Dhital, 2018), and 2.8% in Pakistan (Chandio et al., 2019). Nevertheless, research (Escueta et al., 2017; Ukpe, 2013; Dhital, 2018; Chandio et al., 2019) also suggest that the trend of improvement in use of technology in education is slowly unanimously escalating. During the course of this thesis the pandemic of Covid-19 struck the world, due to which the world went into lock down. However, it was the ICTs in education sector which kept the students of the world studying to

some extent and Usmani et al. (2021) report that even in a developing country like Pakistan, the limited yet available ICT facilities kept the education sector from complete shutdown.

After a brief illustration of the global perceptive of ICT in education, a comprehensive overview of the context is detailed below, in which this research is set, to help in understanding the whole study .

1.3. Research Background: Contextual perspective

The following section provide the details of the context of this research.

1.3.1 Pakistan: The country profile

Figure 1.1 Khyber PakhtoonKhawa Province Map[1]

Pakistan is situated in Asia and came into being in 1947. It is divided in four provinces: Punjab, Sindh, Balochistan and KPK. KPK highlighted in the Figure 1, was previously known as North-West Frontier Province (NWFP). Punjab is the largest province in terms of area as well as population and resources, while Sindh comes next on economic and political fronts as well. Balochistan and KPK are both quite

[1] *http://www.maphill.com/pakistan/n-w-f-p/location-maps/shaded-relief-map/highlighted-country/*

low in every respect; political, economic, social and educational. The country mostly relies on its agriculture. Pakistan has low literacy rates, and they are becoming lower (Rehman et al., 2016).

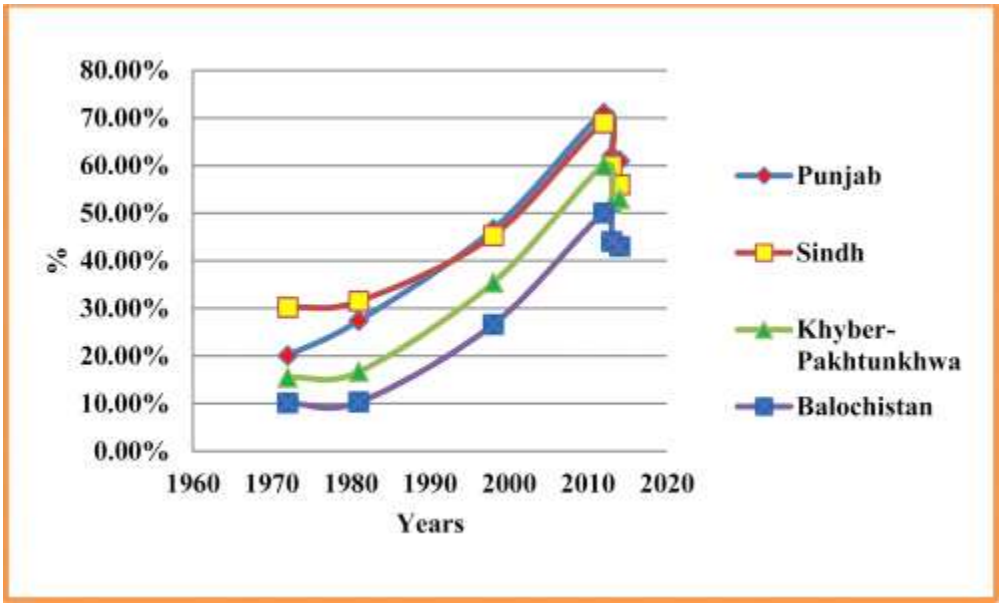

Figure1.2 All provinces literacy rate. Rehman et al., (2016)

The figure 2 show the lowest literacy is in Balochistan, and right above it is KPK province. Sindh is Pakistan's second most populated province, with a population of over 25 million people and its literacy rate is below 50% in rural areas; Punjab is Pakistan's most populated province, with 56% of literacy; KPK's literacy rate is 50%; and Balochistan stands at not far from it at 43% (Rehman et al., 2016, p 142).

The country has faced a lot of problems since 1947, including political chaos and terrorism. This political turmoil has always affected the progress in the country. Similarly, the education in the country has had its share of difficulties. However, as life goes on, the progression towards a better country, a better society has always been on the agenda (Bengali, 1999). Hence, the advancements in education has been considered as a positive way for the development of the country. Since its inception in 1947, Pakistan has had nine[2] "national education policies, eight five-year plans and about half a dozen other

[2] Bengali's work was published in 1999, so he mentions 7; however, two more policies have been published since.

schemes have been prepared and launched and a dozen or more conferences, seminars, workshops and other moots on education have been held" (Bengali, 1999, p 26). In these, the issues of basic free primary education, illiteracy, low rate for women's educamadrisation, dealing with Madrisa (Islamic school) to provide equivalence are all discussed.

Technology in Pakistani education was introduced in late 90s to early 2000s. In Pakistan, to date, there is no dedicated, stand alone, ICTs policy for Education. Nevertheless, the National Education Policies in Pakistan have started to include technologies since its introduction in the country's education (ibid). Initially it was as a subject, Information and Communication Technology (ICT); however, more recently it has been used across the wider curriculum. The Education Policy 2017 states:

The main pillars of ICTs policy are: providing access to ICT in schools; use of ICT to strengthen quality of teaching and enhance student learning; develop complementary approaches to ICT in education; build on best practices in existing ICT programmes; and develop the capacity of education departments. Integration of Computer and other digital devices like smart phones for teaching and learning is needed to prepare students in early grades to be ready for the digital revolution underway (p 7).

While this seems like a general overarching statement, with recommendations on how it may be utilised, the problem is that it does not show a clear way forward, this causes the issues of ambiguity when it comes to its use, integration and progress in the field. The NEP Framework, which was published in 2018, states that the ministry will lead in harnessing the potential of ICT by providing a platform for showcasing good practices and their expansion. The policy (p 7) provides details;

> 'Education improvements across the country will rely on five important pillars: d. Innovative use of Technology- using the power of ICT to maximize implementation and achieve results. Considering the urgency to achieve better learning outcomes in a short time-period, use of computers powered by internet technologies is an obvious solution. Use of ICT can enhance teacher training and build their content knowledge, enabling them to play a more powerful role in the classroom. One of the most commonly cited reasons for using ICT in classrooms is to better prepare the new generation for a workplace that relies

heavily on ICT. It is also a powerful tool to enhance access by transferring new knowledge to teachers.'

These explain that the ministry will provide a platform to ensure utilizing of ICTs. However, it is to be clarified that this research understands the policy document is not a plan of action. These education policies are pieces of texts, leaving "how" to people who are in charge so they can better figure out its implementation. Hence, how these education policy documents are interpreted and implemented is not similar across the board.

As mentioned before, ICTs were introduced in the NEP in 2009, and before 2009, the policy had no mention of any such technologies in any NEP document in Pakistan. It has been 11 years since its initiation in Pakistan and another policy was published in 2017, which provided guidelines for the use of ICT in education. In Pakistan the ICT technologies are not working as they are in the rest of the world, due to many reasons; shortage of facilities, lack of interest, unmotivated attitude towards it, amongst others (Ahmed et al., 2013). Nevertheless, this is an under researched area and in KPK province there is no research evidence which can prove that the policies for these technologies are working or otherwise, for a country like Pakistan. There is no data to ensure or portray the status of ICTs in education in Pakistan in higher education institutes in KPK region.

1.3.2 History and background of Pakistan

Pakistan is situated in Asia, in the Indian subcontinent. This part of the world has seen geo-political turmoil from a few centuries. The last peaceful time was the 17th century rule of the Mughals. In the Mughal era, the rule of the last few insensible Kings made it impossible for the area to remain peaceful, and with peace, the prosperity of the land left as well. An area which once flourished with rich literature and poetry stumbled into illiterateness. Due to this turmoil the general public, especially the lower class, which mostly constituted of Muslims in minority, went from educated to less educated, and from less educated to un-educated in a few generations.

Hence, when Pakistan was formed in 1947, after a long struggle under British rule of the Indian sub-continent, the regions which were included in Pakistan, or the people who migrated, were backward in so many respects, including education. According to Bengali (1999, p1) "at independence (of Pakistan) 85 percent of the population was illiterate and in the more backward regions of the country, e.g., Baluchistan, the literacy rate was even lower, with the rate for rural women therein being virtually zero." This devastating situation required drastic measures; to bring about a change the new country needed to put all its resources to a better use, but these numbers were not the only problem the new born nation was facing; it lacked and required funds for everything. Roof (2015) states that at the time of Pakistan's inception, it was mired in poverty, high illiteracy and economic growth was non-existent: there could not be a worse start than this. However, despite the obvious hurdles, the nation's founder Muhammad Ali Jinnah (1947, cited in Roof, 2015) stressed the importance of education in his inaugural address:

> 'There is no doubt that the future of our state will and must greatly depend upon the type of education we give to our children and the way in which we bring them up as future citizens of Pakistan.'

A barrister from Lincoln's Inn London, Muhammad Ali Jinnah was a well-educated visionary. He foresaw that if Pakistan was to survive then it needed to put its faith in education. This was depicted in how fast Pakistan's government started efforts to make the first education policy for Pakistan. The details of education policy making and planning in Pakistan are discussed later.

In the early 2000s, the Government of Pakistan realised that the traditional educational system requires it to be introduced to and inducted with latest technologies (Qureshi et al., 2012, p 313). Thus, the Government established a university using a hybrid model of education to impart knowledge through technology. The said model had three basic components; physical campuses, lectures broadcast through a television network, and the mentoring and tutoring of students through the internet (Toor, 2015, p 55). The university, named as the 'Virtual University of Pakistan', was established with "the aim of imparting education to full time working professionals in all regions of Pakistan" (Qureshi et al., 2012,

p 314). Although since the project could not achieve its expected outcomes (Toor, 2015), nevertheless the initiative helped in introducing technology in education to Pakistani people.

Recently in Pakistan, a new government has formed, which has taken the education more seriously and has called for the implementation of ICTs in education on a high priority basis. The higher education institutes have been requested to engage with the 'Technology' initiative and to "use and utilize modern information and communication technologies at all levels of education" (NEP, 2017, p 19). However, the HE institutes are not expected to adopt this straight away, as it is not that simple and is a great challenge (Albeshi, 2011, cited in Al Mulhem, 2014). Its successful implementation and integration involve a number of barriers; ample technology provision in terms of ICT equipment, technical infrastructure and support, curriculum and administrational changes, and proper training for academic staff (Al Mulhem, 2014), amongst others.

1.4. Rationale of the study

There has been limited research in recent years on the implementations of education policies in Pakistan; Ahmed et al. (2013), Majoka et al. (2013), Roof (2015), all suggest that in Pakistan the implementation of education policies is inadequate. In addition, specifically there has been no research done in KPK policies on integration of technology in HE sectors with reference to education policies of the government of Pakistan.

Therefore, to understand this predicament this literature gap in Pakistani context has been related to similar contexts, and overviews of the related knowledge on the ICTs educational policies in similar contexts; developing countries like Kenya, Libya and Bangladesh who face problems in ICTs integration are provided in chapter 2. Taking from literature this gap for the policy implementation in the Higher Education Commission (HEC) institutes in Pakistan perhaps may seem similar to other developing countries but as in research it is a common understanding that nothing can be assumed and thus, to be aware of the facts of the policy implementation in a developing country like Pakistan's province KPK, conducting research in Pakistan's context was crucial.

Studies (Ahmed et al., 2013; Majoka et al., 2013; Roof, 2015) show that in Pakistan's higher education institutions the implementation of education policies is very limited. The causes of its limited implementation vary, as some educational institutes follow the policy more than others (Majoka et al., 2013), mostly it is used according to the institutes' decisions (Ahmed et al., 2013). As stated above, Pakistan is divided in four provinces and even as the implementation of policy is somewhat researched, the education policy regarding the ICTs implementation in education in Pakistan in KPK province is a very understudied topic.

In addition to the gap in literature, another rationale for conducting this research was that the government of Pakistan has not given the desired attention to the ICTs in education. This is the reason that no dedicated policy for ICTs in education has ever been formulated in Pakistan (Ali, 2006; Siddique, 2016). However, since early 2000s Government of Pakistan have involved ICTs within the Education sector through their inclusion in Education Policies. NEP 2009 and 2017 both recognise ICTs as a partaker in education in Pakistani context and added ratio of this inclusion was exhibited in NEP 2017 than its predecessor. The NEPs recognised ICTs potential, understood its capabilities, and gave it some value for its contextual use, which is discussed later in chapter 2 and 5.

Even though, it may seem the Government does not want to build on the realities of the context, however it may be due to lack of research or this not being a priority: the problem persistently found in the developing countries which are plagued by political turmoil, discussed in chapter 2. Although proposing a full research-based ICTs policy for education is not possible for this thesis, nevertheless, a small-scale research seemed to be the first step towards it. In addition, an implementation plan is conceived to be the first steps towards this. The findings of the research resulted in suggesting an implementation plan in chapter 8. Also, the issue of ICTs' insignificant place in Pakistan's education policies is discussed in chapter 4 and chapter 6.

1.5. Statement of the problem

This study was conducted to investigate the integration of Information and Communication Technologies in the Higher Education sector in Pakistan. Building on the argument presented above,

the purpose of this study was twofold: first to investigate the position of ICTs in Pakistani education, both policy and practice, at higher education institutions in KPK province of Pakistan. Secondly, based on research findings, proposing an ICTs implementation plan which may become the basis for the first ICTs policy in education in Pakistan.

As discussed above, there is a big gap in the current knowledge base and to fill this knowledge gap it seemed vital to first analyse the national education policies. Nevertheless, after the analysis of the policies, it appeared quite important to gather the views of the decision makers in the institutes who work with these policies, transitioning them into practices. Their views are significant to understand the translation of policies into practice, as it brings out the discrepancies in between the expected outcomes and the actual experiences. And finally, with the help of the new understandings developed through the analysis, providing some practical strategies as a way-forward in the form of an implementation document; an ICTs implementation strategy which may help in building an ICTs policy in education in Pakistan.

1.6. Personal motivation

During this PhD, I learned to be reflective in my work. Now, the spirit of it compels me to explain how these research questions evolved and changed as a result of my personal intellectual journey.

While working as a teacher in HE sector in Pakistan, I kept auscultating the personal feelings of my colleagues regarding ICT in education. Some who wanted to use it complained that they do not have enough resources to utilise technology effectively, and others who are just the opposite, dreading the idea that one day everything would require the use of it. However, I was devastated to not be able to introduce our students to the most important advancement of education, i.e., learning through technology. Acknowledging this, the fact that the way the world has moved on with technology has limited effect on education in Pakistan. It is worth mentioning here that this does not mean technology does not exist in Pakistan. The majority of the youth own smartphones, and social media is very much part of their lives. But when it comes to education, the use of technology in classrooms is mostly considered an extra hassle and needless burden (Qureshi et al., 2012).

Looking at the way the technology is proposed to be used in Pakistan (Majoka et al., 2013; Ahmed et al., 2013; Roof, 2015) , it starts from the use of technological resources in the classroom to the use of blended learning within the classroom (NEP, 2017). In Pakistan this implementation is still in its infancy, a lot has been left to the discretion of the instructors and their technological and pedagogical skills. Therefore, as a researcher, initially it became important to know instructors' views of how they evaluate their use of technology in their respective classrooms and their additional needs for it.

However, reflecting on my research, I started to understand that this issue needs to be seen from a different angle. As mentioned previously, due to Pakistan being at the early stage of implementation of technology in education, so much is unclear. Nevertheless, it is clear that there is an economic divide in public and private sector education (Bengali, 1999) and, even though the governmental policies are the same for all sectors, the implementation seems to be affected by this divide of socio-economic nature (Majokaet al., 2013; Roof, 2015). Although, it is expected that in the HE sectors the privately funded institutes with extra funds and having foreign qualified faculty, will be more active in technology implementation than the governmental institute which have lesser resources, the reality cannot be proven until actual research. But, if expectation match the reality, then in the private sector the technology implementation will be supposedly superior to government institutions, which gave rise to some questions.

1.7. Formulation of research questions

A good study starts with clearly defined research questions (RQs hereafter), but in some cases the RQs evolve and develop as the study progress. The RQs help in identifying and defining the appropriate study design, leading to the use of analytical tool. As stated in the previous section that Pakistan's contextual reality is complex and in terms of technology integration in classroom, the relationship between expectation and reality was complex. It gave rise to issues, and as a researcher I started to question it. For example,

- Is private education sector implementing technology in education advanced then government?
- Looking at ICT implementation, should there be a standardised implementation sufficient despite an institute's ability to adapt more resourcefully than the other due to more funding or better equipment or perhaps tech-savvy faculty?
- Does the government, through the educational/implementation policies, acknowledge the economic divide, and its implications at HE sectors?
- Given expectation match the reality, and research prove the private sector improved in technology implementation, is the government of Pakistan prepared for improved private sector technology implementation by providing different versions of implementation policy for different HE sectors?

These questions set my study on the path to find the real facets within the context. The initial steps were to look into the existing literature, seek the available information, research other studies conducted, and ways these studies analysed their findings. Johnstone (2000) lists a few criteria which highlight how the questions from this study lead this study to be a CDA project. Amongst others she described a well-focused idea about spoken or written discourse, an understanding developed by the questions about particular written or spoken discourse adding value for the wider world, and ability, comfort and competence provided by the RQs in the way to collect discourse data required by the project.

Hence, my study took a new turn, and to answer these questions my research aimed to explore from the background, starting with National Education Policy (NEP hereafter) of Pakistan. Therefore, I intended to carry out this research in three parts; firstly, a critical discourse analysis was done of the national educational policy documents to understand the agenda of the Government. Secondly, to gather facts from the ground level, I conducted interviews from the establishments of 11 HEC institutes, a mixture of government, private, and autonomous institutes. Lastly, an implementation document was suggested, built upon the findings and results of the data collected though policy analysis and interviews.

1.8. Research Questions

This study aimed to find answers for the following research questions and sub-questions

RQ1. What does textual analysis of Pakistan's NEP inform us about ICTs in education?

a. What does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in theory?

b. What are the determinants involved in the process of policy implementation?

RQ2. What does the interviews of stakeholders at institutional level reveal in connection to Pakistan's NEP for the ICTs integration in Pakistan's education system?

a. How does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in practice?

b. What facilities are in place for this implementation?

This research acknowledges the fact that the policies exist in Pakistan and are considered valuable, and they have an aim, but their implementation is not followed up upon hence government do not get data to understand whether the institutions have smooth execution or struggle to follow the government suggested policy. The present research sought to highlight the ways in which the problem of technological implementation exists in the education sector in Pakistan, how and why the implementation took place or otherwise, and this research aimed to produce a suggestive implementation strategy for improved outcomes.

1.9. Research design

As mentioned above, this study aimed to present a factual image of the issues in Pakistan's education sector relating to technology implementation. This involved depicting relationships of dominance, power and control revealed through the language (Wodak, 2001). The view that power relations in discourse are discursive to some extent (Mullet, 2018) offered the means to describe and narrate a reality of the context (Wodak, 2001). To cater for the aims of this study and to provide critically valuable insights into the contextual realities associated to this implementation through discourse, a qualitative analytical approach was considered i.e., Critical Discourse Analysis. However, selecting it was not a

linear process and with the support of literature it was selected. Given there were two types of data to be analysed, both written (from NEPs) and spoken (from interviews) this research required an approach which provided for each set of data. Paltridge (2012) suggests a number of different kinds of projects can be carried out effectively with CDA include an approach nearest to my study. According to him, CDA offers a distinct analytical way by combining use of different discourse datas' analysis. This is further explained by Paltridge (2012) through the example of the study conducted by Nakane (2005) in which she critically examined different types of discourse i.e., interview, focus-group discussions, and questionnaires. Nakane reported that she needed the data to be analysed at micro and macro levels, which made CDA to be the right choice.

Furthermore the relevance of the approach to the aims of the study were evident from the analyses it offers which transcends the interpretation of language and instead aims to explain the work that language performs in a society, an approach which explore connections between educational practices and social context (Mullet, 2018). As this study was to collect data from Education Policies and at institutional level both, CDA provided a link in between them as "it operates under the assumption that institutions act as gatekeepers to discursive resources; power and resource imbalances between *speakers* and *listeners* (ibid, p 117)." According to Wodak and Meyer (2009) CDA is particularly interested in linguistic manifestations of power, its imbalance or resistance (Wallimann et al., 1977) uncovering implicit or hidden power relations (Van Dijk, 1993) like assumptions relating to policy implementations and execution of these policies at institutional level.

Therefore, to investigate the stated problem through discourse the CDA was utilised as analytical tool which is discussed in detail in chapter 3 and 4 but to briefly introduce CDA here, it was proposed by Fairclough (2001) to be a textually oriented discourse analysis, which deals with wide variety of disciplines at different levels of analysis (Taylor, 2004). Although, there are some slight variations of CDA as proposed by Fairclough (2001, 2003, 2004), nevertheless it is important to clarify that this research utilised the CDA and its components best suited for this research from Fairclough's proposed CDA (2001). The process of analysis ties inter-related dimensions of the discourse (Janks, 1997). The three inter-related elements for analysis as proposed by Fairclough (2001) used in this research:

1. The object of analysis- linking to textual analysis at micro level.

2. The processes by means of which the object is produced and received by human subjects- discursive analysis at meso level.

3. The socio-historical conditions which govern these processes- social analysis at macro level (Janks, p 329).

Through these, firstly, the education policy documents from the years 2009, and 2017 education policy of Pakistan, were analysed through CDA (Fairclough, 2001) to understand the Government's intentions towards ICT in education.

Secondly, interviews were carried out from the decision makers of educational institutes for the use of ICT in classrooms; 11 interviews were carried out at different educational institutes at higher education level. The sample for this research was categorised in three groups: government, private and autonomous institutions; three heads of institution working in the capacity of principal and head of department, two participants are course directors, two participants work in the administration, and lastly the four are teachers in HE institutions.

And finally, the RQs helped in understating and formulating a suggestive implementation strategy for ICTs in Pakistan presented in chapter 8 which proposed to streamline the ICT implementation and integration in HE classrooms in KPK province, Pakistan.

1.10. Research contribution

This study aims to contribute at three levels: firstly, this research was conducted to fill in the gap in the literature. As mentioned previously, this research was situated in KPK province of Pakistan and no research till now have been conducted in KPK province to study ICT in education sector in Higher education institutions. Secondly, Pakistani government is in the process of formulating new education policy and is seeking the advice of educationist in different fields of education to help the government shape the future of education through their research. Therefore, this study is to be sent to the government adviceline for education policy formulation 2021/22 to provide evidence-based suggestions. Lastly, there is a pedagogical aspect of this research. This study suggests a framework, an action plan for the

stakeholders, to influence the policy implementation in classroom and suggestively bring out improved results.

1.11. Overview of the chapters

Chapter 1 introduced the context of the study. It discussed the current situation and gave the rationale for this research. It stated the problem and explored the formulation of the research questions. The chapter ended with the two research questions this study is based on.

Chapter 2 gives the details of Pakistani context in relation to education policies since its inception, i.e., 1947, till the most recent education policy of 2017. The chapter describes the three education systems present in Pakistan - the English medium, the Urdu medium and the Madrisa system, how they operate in their own spheres. The chapter also gives details of the genre of these policies, which is a knowledge-based economy and defines it with the neo-liberal critique on it. At the end, the chapter provides an overview of the implementation process and implementation strategies used in other countries of the world, both developing and developed. The detail from developing countries helps to understand the position of Pakistan in the implementation of ICTs policy, and an understanding of how to implement it is derived from developed countries.

Chapter 3 discusses the use of critical discourse analysis as the theoretical framework for this research. The chapter details the theory of discourse and theoretical foundations of CDA. Next, the discussion around the argument of power within, and perceptions of discourse are presented, and the chapter concludes by deliberating the translation of CDA as theoretical framework and highlighting the distinction of the CDA used as analytical framework in this research.

Chapter 4 takes a closer look at the methodology to explain the workings of this research. This study is a qualitative research study, which uses CDA as methodology. The chapter discusses in detail the workings of qualitative research and how this research fits the criteria, and then explains how the methodology helped in choice of data collection. The chapter explains the data were analysed through

three levels of the critical discourse analysis. The chapter then details the research methodology in detail, explaining how the topic of the research was chosen, the way sampling was done, and the process of data collection and analysis of data are given at the end.

Chapter 5 comprises the Critical Discourse Analysis of the two education policies of 2009 and 2017, published by the Government of Pakistan. The three levels of analysis as proposed by Fairclough (2001) are given, i.e., micro level, meso level, and macro level. The micro level is a textual analysis, which provides the analysis of the object (Janks, 1997) or in this case the policy document at the textual or lexical level. The meso level analysis starts at the textual level, from the process which the policies originate from, by means of its design, and extends to the processes which establish the condition (ibid). This condition, 'the socio-cultural' practices, are analysed at the macro level. The analysis of the policies concludes by making way for the next analysis of the interview data provided in chapter 5.

Chapter 6 is where the interview data are analysed. It starts with the connection to the research questions so the reader can relate the analysis to them. The data collection is briefly discussed, which leads to the code generation for the analysis. The four codes generated for analysis are:

1. provision of technology and technological tools in classrooms,
2. use of technology in class and technology shaping teaching learning processes,
3. awareness, applicability, and implementation of government ICTs policy, and
4. institutional resistance: inequalities, bias, and hegemonies.

These are analysed through CDA in detail, connecting it to the original interview data. At the end of the chapter, the reasons for the suggestion of an implementation strategy are discussed.

Chapter 7 discusses what we have learnt from the analysis of the policy documents in chapter 4 and interview data in chapter 5, to answer the research questions. The first question is in relation to policy documents; what does Pakistan's national policy tell us about ICT in education? The findings are summarised in four points: the justification, the design, the goals, and the theme. The second research question gathers answers from the interview data; how does the policy for the integration of ICT

function in Pakistan's education system? The findings of this question are summarised as: technology in the classroom, perceptions for ICTs, Pakistani Government's education policies and their impact, and policy enforcement. At the end of the chapter, the findings of the study are highlighted again.

The last chapter of this study, chapter 8 starts with a suggestive implementation strategy for ICTs in Pakistan, with details of how it could be done. The chapter then provides the limitations of my research in detail and, before concluding the research, my reflections as a novice researcher are presented. The chapter concludes with hope of the future development of ICTs in Pakistan.

Chapter 2: Literature Review

2.1. Introduction

In this literature review Pakistani context is discussed. First, through reviewing the related literature this chapter provides a global perspective of the ICT implementation in similar contexts across the globe. Then a review of developed context where ICT is being implemented in a much better way is also explored to provide a view of how the implementation may work in developed countries. The chapter then takes on the provision of policies based in Pakistan which build upon knowledge-based economy and examined its neo-liberal criticism. In addition, a detailed account of Pakistani education policies is given, formulated since its inception in 1947 to the last published one in 2017. The chapter then discuss the types of education systems working in Pakistan. Lastly, an overview of the implementation process and implementation strategies is presented, connecting it to the conclusion where the knowledge gap, this research is trying to fill, is presented.

2.2. Global perspective

To understand the global perspective of ICTs, a review of some of the strategic ICT implementation plans from different developing countries, which are in similar situations like Pakistan, are given below. The policies included in this literature review through Homogenous Purposive Sampling are from three developing countries[3] (SDG indicators, n.d.) according to UN economic report, which are in somewhat similar to Pakistani context, and one from a developed country (ibid) is included which, in comparison, helps to understand the whole spectrum of policy implementation. It seemed important to be introduced to the different range because it helped in formulating a strategic implementation plan for Pakistan. In the following section, I would describe how I utilised the Homogenous Purposive Sampling to select and search for the literature for this review. It includes detailed explanation of relevant search terms, inclusion and exclusion criteria, and the review process.

[3] https://unstats.un.org/sdgs/report/2022/

As mentioned previously, to understand the global perspective of ICTs, literature from developing countries was reviewed. It was done through Homogenous Purposive Sampling which is a form of sampling that focuses on similar or specific (Etikan et al., 2016) indicators. The idea of Homogenous Purposive Sampling "is to focus on the precise similarity and how it relates to the topic being researched (ibid, p 3)." In the case of this study the number of indicators kept in consideration were similar GDP, status of economy, political scenarios, state of the country to be developing in nature, and scope and investment in ICTS for education.

Firstly, considering Homogenous Purposive Sampling, the research terms were decided for the web-search. An important aspect for inclusion was the available research to be empirical. In addition, all the research were to be in HE institution. Secondly, according to Homogenous Purposive Sampling indicators the inclusion and exclusion criteria were determined to keep the scope of the search reliable and relevant to this research.

- The first thing which was considered was the location of the country. As Pakistan is situated in Asia so it seemed relevant to include at least one country from the same continent.

- The second consideration for the sake of relevance was the social-political scenario. As stated previously, Pakistan has seen a lot of political unrest, which is pertinent to its budget diverted from education sector (Bengali, 1999) towards other causes. In addition, similar GDP and economic background were required. Thus, developing countries with similar political strife were to be included.

- The inclusion criteria also determined the research included were not student focused as that was not the focus of my study. This research intended to explore the views of decision makers including teachers, administrators, and heads of departments. Hence, research study which was confused on these positions were only included.

- My study focused on HE, therefore the inclusion criteria for the literature strictly observed the limit to include studies in HE environment. Nevertheless, research conducted on any courses, long or short, which were after year -12, or after 12 years of education and considered as Higher education, were considered against other merits for inclusion.

In addition to the above, some minor criteria were put in place as well which can be seen in the form of a table below.

Criteria	Inclusion	Exclusion
Language	English	Not in English
Year Published	All after 2000	Any before 2000
Methodology	Empirical research	Non- empirical
Level	Higher Education, any after year 12/ A-levels	Before Year 12/ A levels
Focus	Teachers, administrators, head	Students
Country wise	Developing country, plus only UK[4]	Developed countries except UK

Table 1.1 Inclusion and exclusion criteria

After the criteria was set, the homogenous purposive sampling resulted in founding three very similar contexts to my study, Kenya, Libya and Bangladesh, which were, then included in searching for the required literature.

Once the similar contexts were decided, refining the search terms was done. As this research was on the integration of technology in classrooms the combination of the key search terms were used: Technology in classroom, ICTs in Higher Education, integration of technology, implementation of technology, in Higher Education. All these terms were used with variations of all three included countries, i.e., Kenya, Libya and Bangladesh.

It is important here to understand that all of the empirical data was not relevant to my research. Initially the process brought I got 6071 items on Scopus, and 5,966 items on Onesearch (Lancaster search library search engine). However, this was just the beginning, bringing the results down through the filters and condensing the results for my literature review, going through the lists of literature and applying the filters, eventually, five studies for Kenya, six for Libya and four for Bangladesh were found to be the best suited for this research and reviewed.

[4] To provide comparison from developed countries, detailed of which are provided later in the chapter.

Just to understand the review process given below, first the selected literature has been introduced, every study individually for included countries, and later the issues from these studies have been discussed.

2.2.1. ICTs in developing countries

It is to be reported here that there were research gaps found in Kenyan literature. However, while searching the literature it was found that there was not a lot of research done regarding ICTs in Higher Education, probably due to the little extent of its existence in Kenya's Universities. Therefore, five studies included were included in the literature review, which relates to my study and its scope.

2.2.1.1 Kenya

The first study included for the literature review was by Glen Farrell (2007) which was done through survey method to provide overview of issues related to ICTs use in education in Kenya. The study suggested that the state of ICTs infrastructure in universities was too expensive, too little and poorly managed. The study concluded that Kenya was working towards national research and education networks to improve the situation and provide affordable resources, "this initiative is spearheaded by Kenya's institutions of higher learning to establish a high-speed, reliable, and sustainable network for the interconnectivity of all learning institutions" (p7).

Second study included was by Kashorda and Waema (2011) which report potential of ICTs in Kenya, suggest in higher education ICTs adoption was at different stages of integration, propose use of ICTs in education can be improved through development of appropriate strategies and then on the basis of their results present a model for overcoming the limitations and issues of ICTs implementation in Kenya. The study concludes by the paper recommending further research to improve quality of higher education and to derive ICTs readiness for higher education institutions.

Another study included was conducted by Karanja et al. (2018), on the influence of integration of ICTs in public universities in Kenya. The study considers ICTs as a crucial tool and reports little was known about its integration in the public sector Universities. Through survey method, the findings of the study

revealed that ICTs are perceived positively by lecturers in the sector, however training and development in the sector was suggested as the way forward.

A study by Kibuku et al. (2020) present the challenges of e-learning and how universities cope with them. The study used in-depth interviews and participant observations to gather data from the e-learners, e-tutors, e-learning managers and e-learning platform. The findings included lack of skills and training, shortage of trained staff, collaboration, and personal issues. The study recommended first the universities need to acknowledge these issues to cope with them. In addition, recruitment of trained staff, training of already working staff, and efficient pedagogy were recommended.

The last study included was done by Bairu et al. (2022), on the influence of teachers' competencies on ICTs implementation, their skills and knowledge in Kenya universities. The study based on the hypothesis that there was a considerable research gap between teachers' competencies being critical in ICTs implementation. The study concluded by reporting significant evidence that teachers' competencies significantly influence ICTs implementation, therefore, the study formed a foundation informing universities stakeholders on their responsibility to support teachers in implementing technology in their instruction.

Starting this discussion with the African nation of Kenya, ICTs were introduced in Kenya's education system in 2006, when the education policy aimed to improve the quality of teaching and learning through the use of ICTs (Farrell, 2007). The Government offer no to low access to ICTs facilities in Higher Education institutions (Mbarika et al., 2007). The Education policy put influence on the use of ICTs in teaching and learning, the ministry quickly moved on and in one year a 'National ICTs Strategy for Education and Training' was introduced. The strategy document consisted of ten components each with their own statement of strategic objectives and expected outcomes and these were

• ICTs in education policy • Digital equipment • Connectivity and network infrastructure • Access and equity • Technical support and maintenance • Harnessing emerging technologies • Digital content • Integration of ICTs in education • Training (capacity-building and professional development) • Research and development (ibid, p 4).

While these had their objectives and expected outcomes marked, Farrell (2007, p 4) reports "the Ministry of Education was given the mandate to lead the monitoring and evaluation of the strategy's implementation, guided by overall government policies on education and ICT, specific education strategic documents for implementing its mandate, and global goals". Hence, the implementation was strategically mobilised to agencies for effective implementation. The implementation agencies included semi-autonomous government agencies, NGOs, civil society organisations involved in ICT in education activities, and academia with the individuals having the experience in ICT in education projects. Previously, each university in Kenya was expected to develop its own ICTs policy; however, after the Ministry of Education was commissioned for ICT implementation in higher education, the government intended to streamline and harmonise practises and procedures in the country (ibid, p 5). These implementation agencies were expected to restructure the implementation process by working with the universities across the country.

Therefore, to raise an important point here is that the policy was not mere guidelines; they were monitored by the Ministry of Education of Kenya itself by monitoring the execution and strategising of the implementation. In addition, as a quality check, the strategy implementation was evaluated as well, to confirm its effectiveness. It was also reported that an ICT committee was established which met monthly and reported quarterly on progress. In terms of higher education, a World Bank Institute survey found that African universities lack the resources and are poorly managed. However, Farrell (2007) indicated that the situation was changing, and Kenya was in the process of establishing internet infrastructure for institutions, developing contextual content, providing affordable tariffs and improving information content to support technology in education.

To examine the follow-up on it, a more recent study by Karanja et al. (2018) declared that the project cost the Kenyan Government US$ 12 million, in which bandwidth was expanded and universities were equipped with computers and connectivity as well as upgrading their infrastructures to utilise the full potential of ICT in education. Nevertheless, it was reported that despite all these, the results were ambiguous. The study reported that the expected outcomes from the project were neglected, thus the attainment of long-term enhanced efficacy and effectiveness and development in performance were not

achieved. A study by Kithungu et al. (2020) documents the Kenyan Government initiative towards ICTs implementation called vision 2030, which aims to provide internationally competitive education and streamlining ICT integration in teaching curriculum, establishing e-education networks, and promoting e-learning at all levels of education. However, the study reports the country still struggles with ICT integration due to insufficient infrastructure facilities, provision of trained teachers or teacher training (ibid). According to another study by Kibuku et al. (2020, p 157) Kenya struggles with "limited bandwidth, lack of appropriate ICT training, lack of priority in ICT funding, ICT sustainability and pressures due to poverty" and suggest that these challenges should be addressed individually and at institutional level to minimise their impact on the ICT implementation in the Kenyan education system. Kashorda and Waema (2011, p 64) provide a model for the effective improvement of ICTs in Higher Education, in five self-explanatory categories namely:

- Network access (information infrastructure, Internet availability, Internet affordability, network speed and quality)
- Networked campus (network environment, e-campus)
- Networked learning (enhancing education with ICTs, ICTs in libraries, ICT research and innovation, developing ICT workforce)
- Networked society (people and organizations online, locally relevant content, ICTs in everyday life, ICT in workplace)
- Institutional ICT strategy (ICT strategy alignment, ICT financing, ICT human capacity).

According to Kashorda and Waema, this is the way forward, to get improved results and better integration.

2.2.1.2 Libya

The first study included in the literature review for the country Libya was potentials of e-learning in higher education system was by Rhema and Miliszewska (2012). The study built on the premise of

rebuilding higher education system amidst the political and armed conflicts, reported that ICTs and e-learning were considered to be the need for the re-development of HE systems. It suggested that the country was still at the early stages of ICT integration in education and faced issues like lack of infrastructure, limited fundings and use of traditional instructional methods. The study concluded by proposing an integrated approach, support for the affected learners and instructors, improvement in teaching methods, and funding for training, equipment, and unrestricted access to resources.

The second research (Kenan et al., 2014) reviewed for the literature review was on policy issues for the e-learning implementation in Libyan universities. The study presented an in depth research conducted on two questionnaires from 2009 and 2013, evaluating e-learning policy implementation processes. The study reported that the improvement was evident and some HE institutions had managed to successfully integrated ICTs. The research concluded by recommending that support was required for the implementation from senior management, budget and developed facilities were required, training courses and access to technology were the future of ICTs integration in Libyan universities.

Another study done by Abukhattala (2016) discussed the policy making and integration regarding ICTs in language classrooms in Libya. This qualitative research sought to find the truth about the use of computers and ICTs classroom. The study concluded that there was a misconception that teachers were unwilling to use technology and the study found that the teachers were more than willing to utilise these resources. The study suggested that the institutions needed to provide effective and proper training for this integration to be successful.

A study by Salem and Mohammadzadeh (2018) on the integration of ICTs in EFL classroom in Tripoli University, Libya, faculty of education, investigated the attitude , culture and requirements of ICTs adoption in education. The study found that the teachers showed positive attitude towards its adoption, they believed more training and resources were required, and demanded for solid infrastructure to be put into place. The research concluded by recommending the efforts put in on the identified barriers and training for improvement of skills and enhanced availability of resources were suggested.

Another research titled “The ICT-Induced on Behavioural of Lecturer and Society Change in Libya Universities” by Mohamad et al. (2018) explored what motivated, encourage, and induced lecturers to use ICTs in classroom in Libyan Universities. The study found that the lack of training, knowledge and skill were the main hurdles in ICT integration. The study concluded by recommending the provision of training to enhance knowledge and skills, and collaboration amongst universities, considered to be beneficial for ICTs integration in Libya.

The last research reviewed in this study from the context of Libya was to evaluate the performance of ICTs implemented in HE in Libya. The case study by Almigheerbi et al., (2019) presented the current situation of ICT in University of Tripoli, the biggest and oldest in Libya. The study evaluated the educational and research, both aspects of ICT implementation in the university. The study found that the infrastructure lacked the ability to support the implementation. Furthermore, lack of motivation from staff, and uneven distribution of resources was also considered a barrier. The study concluded by suggesting the university apply a planned model for better results in ICTs implementation.

To discuss the issues in this developing country, Libya, it has been plagued with war, but the Government is turning its attention in trying to equip the education system with ICTs. Kenan et al. (2014) reported that due to war and armed conflicts, the country was forced to start from scratch. Their study reported the main barriers in the broad sense in Libya were technological and cultural; technological barriers included insufficient network infrastructure, lack of experience in using technology and provision of facilities, and the cultural barriers included unfamiliarity with technologies and negative attitudes or opposition to adoption to educational changes. The study by Rhema and Miliszewska (2012) reported that ICTs and e-learning may be the key for the support in increased access to and improving the quality of higher education in Libya. They reported that ICTs can expand the access to education and improve its quality by provision of better teaching learning content for students and training courses for instructors. The notable things which relate a war-torn country like Libya to Pakistan are the similar attitudes of the Government towards the ICTs for Higher Education. In the conclusion of their study, Rhema and Miliszewska (2012) appeal to the international community to help the struggling Libyan education system to get back on its feet and start a new chapter in the new

millennium. It is evident from the literature that Libya's higher education context is still at the formulating phase for the implementation plan of ICTs and hence, struggles for ICTs implementation (Salem & Mohammadzadeh, 2018; Mohamad et al., 2018; Almigheerbi at al., 2019). However, in addition to Libya's universities not adequately supplied for ICTs integration, teachers also indicate issues and difficulties to work with the technologies (Abukhattala, 2016). Nevertheless, literature suggest that the teachers in Libya's universities show positive attitudes towards the ICTs adaptation (Salem & Mohammadzadeh, 2018) which was not the case in the past where teachers struggled to have positive attitudes towards ICTs implementation (Rhema and Miliszewska, 2012).

2.2.1.3 Bangladesh

The first study reviewed from the context of Bangladesh was by Khan et al., (2012) on the barriers of introduction of ICTs in Bangladesh's education. This is very important to mention here that this was not an empirical study, this was a comprehensive review of international articles. This was the only exception to be included which is not empirical, due to the depth and richness of the information it provided for the context. It is to be clarified that as Kenya, Bangladesh has a bigger literature gap when it comes to ICTs implementation in HE sector. Considering, this review was included to be the part of the study. The study by Khan et al. (2012) suggests a number of ways ICTs enhance HE through literature, and moves on to suggest that the government of Bangladesh was committed to implement ICTs in education. The study concludes by suggesting the government needs to take bigger steps towards providing support for this implementation.

The second study included explored the status and role of ICTs in educational institutions in Bangladesh (Bairagi et al., 2011). The study collected data from universities as well as colleges, polytechnic institutes, secondary schools and Madrash (Plural of Madrisa). The study revealed that the level of infrastructure of ICTs was not satisfactory. The study concluded by recommending more training, resources, facilities, and open platforms might be the key for future success.

Another study by Sultana and Shahabul (2018) presented the causes of low implementation of ICTs in education sector in Bangladesh. The research sought to find the present status of ICTs in HE in

Bangladesh and recommendation for overcoming any barriers. The study concluded by suggesting lack of infrastructure and resources, insufficient funds, lack of Government's vision and planning, and limited knowledge and skills were the barriers faced by Bangladesh HE sectors.

The last study included in this literature review explored the impact and effectiveness of ICTs policy in Bangladesh (Aziz, 2020). The research suggested that to improve the impact of ICTs and for enhanced implementation in the HE sector, the access, resources, skills, and digital reforms from the Government were required.

A study by Khan et al. (2012) on the barriers of introducing ICTs in Bangladesh reports that the country's education system was introduced to ICTs in the late 1990s. Their study aimed to present an overview of barriers encountered while introducing ICTs in classrooms, especially the situation in Bangladeshi classrooms, in the hope of helping educators, policy makers and other decision makers. The identified barriers were lack of resources, lack of funds, insufficient knowledge and skills for ICT, and lack of vision and planning for ICT implementation. In addition, political, social, cultural factors, corruption, and teachers' attitudes and beliefs about ICTs were also portrayed as influencing elements. The recommendation of the study for the implementation were commitment from the Government with resources, funds, working with local software companies, training, and development of skills for deeper motivation towards ICT implementation. Bairagi et al., (2011) found that the ground reality was much weaker than anticipated; only 50% of class/ departments at HE level has basic computers whereas only 39.37% supporting teachers and 51.6% teacher had basic ICT knowledge. Unfortunately, a more recent study by Sultana and Shahabul (2018) on the cause of low implementation of ICTs in the education sector in Bangladesh reported that these barriers still stand. Sultana and Shahabul (2018) state that the Government of Bangladesh is committed to implement ICTs but still face the same challenges which it was facing a decade ago. The lack of resources, the shortage of funds, the unavailability of training effecting skills and motivation for ICT implementation, and most importantly cultural and economic factors, still were regarded as the hurdles for the implementation of ICTs in Bangladesh. A study by Aziz (2020), aimed at exploring the ICTs policy and its current status as success or failure at HE level in Bangladesh, suggests that having a policy alone cannot be considered the affirmation of successful

implementation in the context of Bangladesh. His study emphasises that economic aspects like funding, resources and training availability ensure the implementation. He further suggests that economic and infrastructure development perhaps can bring the ICTs to a better implementation in Bangladesh. This is very relevant to my study as this shed a new light on the whole scenario: having an ICTs policy cannot ensure its implementation unless all the cultural and economic factors also contribute towards it. It is interesting to explain here that Bangladesh was a part of Pakistan when Pakistan got its independence from British rule in 1947. Bangladesh became an independent state in 1971 and remains in almost the same economic and cultural situation as Pakistan.

Reviewing the literature of the developing countries in similar situation as Pakistan provide some insight in the struggles of ICTs implementation and integration in HE level classrooms. As suggested by literature, the lack of resources and funding are a constant issue in all these developing nations. In addition, the political situations also influence the situation and thus lack of equipment for ICTs and lack of training for integration is a constant. However, literature informed of two new leads towards the ICTs integration which this research did not consider previously: first, through reviewing the literature we found that in the developing countries ICTs integration in classrooms are not in any case a priority for University, Government nor teachers (Karanja et al., 2018; Almigheerbi at al., 2019; Sultana and Shahabul, 2018). The second development is that even if the situation of ICTs integration is not changing much, nevertheless the attitudes are improving towards ICTs implementation in classroom and a positive stance is documented (Salem & Mohammadzadeh, 2018; Kibuku et al., 2020).

There is an interesting facet of reviewing all of this literature from developing countries: it was found that Pakistan has similar contextual issues and realities to those found in the discussed developing countries. When searching the literature for review, some gaps were identified in the literature for these developing nations as well. Thus, deducing the influence of lack of funding on the lack of quality research was evident in these developing nations as well.

The significance of this argument is later discussed in relation to findings in chapter 7 in detail.

2.2.2. ICTs in a developed country

After exploring research on developing countries where implementation strategies are being formulated and in the process of application, I will now examine the position of a developed country where these policies are already in place and implemented, the United Kingdom. The United Kingdom was chosen as it is considered a developed country (SDG indicators, n.d.) according to UN economic report, where education is quite advanced as compared to developing nations. It provides a good comparison to the developing nations discussed earlier, in understanding the implementation of ICTs in HE in classrooms.

2.2.2.1 The United Kingdom

Before the review of the related literature, it is important to understand that there were a lot of research studies available which were relatable to my research and could be part of this review. Nevertheless, I choose four studies to review for this literature review. Another important factor to be understood here is that none of the studies included were recently done. This is due to the fact that UK has established ICTs successfully, as compared to developing countries, in the 90s. Hence, the literature reviewed here is from the time UK was integrating technology successfully in its HE system to show how they were doing it; to show how successful integration was accomplished. And if the review was to be done from recent literature, there would be astronomical difference in the review, as compared to developing countries, which in turn would have not benefited my study.

The first study reviewed was by Su White (2007) on the success factors for e-learning and institutional change in HE sectors in the UK. The study used evidence from surveys for the use of computers in education. The study took place in a three-year project. The study found a steady growth in the use of e-learning and ICTs in the life-time of the project. The study reported that in the participating institutes strategies were employed to ease the transition from traditional to e-learning. At institutional level, support was provided to the staff as well as facilities were offered to them. In addition, the research also reported that reliable and appropriate equipment was the first priority of all the participating institutions. The study concluded that there were challenges at the institutional level however, the financial autonomous institutions were able to cope well .

A study on the implementation of e-learning in HE in UK conducted by Goodison (2001) explored the principles for improving the three instructional functions through ICTs i.e., teaching, learning, and assessment. The study took a detailed analysis of the ways in which quality could have been improved in the use of technology for these three aspects of education. The study concluded by declaring that the growth of technology was inevitable in education sector, and it have in fact benefited the sector by opening channels of communication and access to knowledge. Nevertheless, the study emphasised that use of technology should not be taken as replacement for student's learning itself, but as an additional tool of educational resource.

Another study included was conducted to investigate the implementation of e-learning and VLEs in HE, to access its weakness, strengths, and qualities (Souleles, 2004). The study was conducted in ten HE institutions on (at that time when it was getting established) to reflect the current situation. The study highlighted the importance of training, reward, collaboration, and institutional support. The study concluded that the situation was evolving and acknowledged that technology was to change more, hence recommended to institutions to adopt with the change.

Last research reviewed was on the effects of use of computer-based learning were investigated by Garland and Noyes (2004) in the University of Bristol. Acknowledging the continued development in educational technology, the study explored the optional vs mandatory use of educational technology found the later more useful than optional due to students being non-centred, lack of instructions, and on student apathy.

The UK has technology in classrooms since the late 1980s (Boyle et al., 1997; Garland & Noyes, 2004). Although the government had planned technology integrations at different levels of education in different years (Garland & Noyes, 2004). From the 1990s the UK government initiated some programs to promote and develop the use of ICT in HE, and several steps were taken to instigate it in education since the early 21st century (Price and Kirkwood, 2008). Initially the reforms included increased attention to learning and teaching, increased professionalism for HE teachings, and institutional strategies for learning and teaching (ibid). At institutional level there were efforts and White (2007, p

9) study on the success factors of ICT in education detailed how institutions were helping their staff to motivate, facilitate, provide, and deliver for their needs. The study recommended that "Institutions may find it beneficial to identify their individual barriers to change, and thus begin to identify what in the context of their own institution will be their own critical success factors". The argument reveals that not only the Government was taking steps, but institutions were initiating in their own accord and making reforms within their capacities to integrate ICTs, a factor which may be the cause of its successful implementation (ibid). for the successful integration Souleles (2004, p14) considered importance of "developing an overall policy at institutional level, the significance of staff incentives and training, the inclusion of quality control processes in the implementation process, the importance of inter- departmental collaboration, the need to re-evaluate teaching methodologies, and the necessity of having feedback mechanism". Her study revealed that the initial success was due to over-arching communication policies, institutions learning from their implementation process, strategies for rewarding and training staff, and taking feedback to improve teaching and learning. It was emphasised (Goodison, 2001) that the UK government has the responsibility to cater for the initiatives brought by technology advancements and promote communication, ensure pedagogical development, collaborate with staff for awareness of upcoming developments, review and advise discipline – based research for long term results.

The Government of the United Kingdom published the first strategy implementation plan on ICTs in 2011 (Rizza, 2011). The plan was to focus on standardising ICTs through government departments; it was a plan to moving from the 'what' to the 'how'. The plan aimed for common infrastructure, digital by default services, focusing on small steps for improvement, going green, and standardising government as an effective ICT customer with suppliers of ICT industry (Suryawanshi & Narkhede, 2013). The plan was reviewed a year later to report the progress on this implementation and a number of successes and also issues were reported (Brooke, 2013). The progress was reported in three areas: stimulating economic growth, creating a common ICT infrastructure, and using ICT to enable and deliver change: the report showed promising results and the Government of the UK aimed to achieve the goals soon afterwards (ibid). It is important to mention that all through the process of creating,

establishing, and adapting, the government of UK kept the stakeholders on board, regarded as a success factor (Goodison, 2001; Soulele , 2004; White, 2007). These were teachers and agencies which influence the everyday classrooms, and the government liaised with these to get better understanding to begin with, and in terms gave them a better comprehension at the end for adaptation.

Thus, as the literature suggest, the factors and initiatives by UK are a guide for the developing countries to adapt from as per their contextual approval and allowance, which are later utilised in building the action continuum suggested for improved ICTs integration.

2.3. The socio-political context of the education policy

The social and political philosophy stands for ethics in the society and the government, in which just distribution, merit, fairness, justice, and responsibilities are important elements (James, 2011). The socio-political concerns pursue a just social order which is based on equal access and distribution from a legitimate government (ibid). The society and the political environment play a dominant role in policy implementation. DeGroff and Cargo (2009, p 52) believe that "socio-political factors play out at all levels of the policy implementation process." When coming together socio-politically for the implementation of policy, DeGroff and Cargo talk about the different status each stakeholder has in the situation and state that "implementers' decisions about whose needs will be served, how they will be served, and which outcomes will be valued are determined in part by social and political factors" (ibid). In addition, Frederickson et al. (2018) think that the different positions bring a mix of different values, interests and goals, hence "implementation is increasingly being defined through socio-political processes of negotiation, compromise, and bargaining" (DeGroff & Cargo, 2009, p 52). Consequently, this power differential will mean the inevitable difference of persuasion due to status, resources, authority, or expertise (ibid). DeGroff and Cargo (2009) believe that this power differential may have broad and important implications on the policy implementation; this paradigm needs to be kept in check for the smoother implementation as clearly it is not necessary that power or authority will be accompanied with the expertise as well.

To understand the trajectory of the socio-political context of the education policy, Švarc (2006, p 146) believe that it is "historically rooted in the spirit of re-traditionalization, de-industrialization, de-scientization and irrational administration has created the cognitive, social and political inability to accept the global transformations towards innovation-driven growth". To rephrase, the socio-political agenda hinders the implementation of educational policy in some way, and as a result, impedes expected growth. The challenges for its implementation may be of the "stakeholders' ability to reach a consensus in determining goals" (DeGroff & Cargo, 2009, p 53), the political influences used to divert the funds to themselves hindering the process or embezzlement. This paints a true picture of contextual realities of Pakistan where political influences for fund diversion, or even worse, embezzlement, are not uncommon (Farid et al., 2015). This relates to one of the themes found while conducting critical discourse analysis of interview data, which is discussed in chapter 4 and chapter 7.

Though the socio-political concern stands, the ramifications of cultural practices are also evident on the education policy, which are discussed as follows.

2.4. The Education Policy as a cultural practice

Education policy relates to its country, culturally. Betzel (2013, p 27) states that her understanding of the policy is that it is a cultural practice, but she explains further that she does not negate a "more pragmatic notion of education policy as constituting laws and initiatives that determine the shape and function of education systems both national and a local level". To put this in simpler terms, education policies stem from the needs of the education system of the country and are built on the values exercised in the society including its cultural influences. Trowler (2003, p 95, cited in Betzel, 2013) defines it as "a specification of principles and actions related to educational issues, which are followed, or which should be followed, and which are designed to bring about a desired goal". Hence, almost all the policy documents have the same formulation; intent to make something happen, actions to be taken organisationally, or administrational practice to be changed (Ibid). To put it together, education policy follows the cultural practices; they relate to the people and ethos in a way which helps their discourse

to suggest principles and laws, that design and determine to steer our education systems towards the right path.

When depicting the culture, the education policy relates itself to the way these cultural norms exist in the society and how they are influenced by the economy. The economy pushes the culture for the commodification of learning (Patrick, 2013) which gave birth to the notion of Knowledge-based Economy (KBE). It is interesting that the genre of both education policies included in this research - NEP 2009, and 2017 - comprised of KBE. To understand KBE, literature suggests that it may be interpreted as "a complex, heterogeneous, and variable assemblage of social relations, which are articulated to a distinctive set of subjectivities and mediated through material objects and social institutions" (Jessop, 2005, p 1). It can also be understood as the consumption of knowledge and knowledge-based products creating the economic growth through creation production and distribution (Harris, 2001). In simpler terms, the move from muscle to mind, to create different kinds of wealth for economic growth is KBE (George, 2006). The KBE is important to my research as according to Godin (2006, p 20) "it can be said that the term knowledge-based economy referred to at least two (supposed) characteristics of the new economy. Firstly, knowledge would be more quantitatively and qualitatively important than before. Secondly, applications of information and communication technologies (ICT) would be the drivers of the new economy." Thus, KBE emphasises the value of knowledge and highlights the role ICTs offer aid to the new economy. It is significant to understand that when looked at more closely, economies treating knowledge to its full potential with KBE in perspective are the only ones which are taking advantage from it (Sum & Jessop, 2013).

Research suggests (George, 2006) that the boom which started in the last decade of the 20th century, towards mind and knowledge, led to greater dependence on education for the economic growth and this confidence saw greater emphasis on education, especially higher education, in both developed and developing nations. However, George points out the fact that developing countries got left far behind in the global marketplace because they were not paying attention to KBE. A research, very relevant to my study by Bano and Taylor (2015), conducted on the role of universities in the perceptions of KBE in Pakistan, reported that progress in Pakistan was slow. The research conducted at five universities

suggested that “Pakistan has the potential to move towards the KBE and that the universities can play a significant part in this development” (p 250). It gave a lot of importance to higher education and reported, “this (research) confirmed a widespread view within the higher education sector that universities formed an integral part of the national ecosystem of education and should transfer knowledge and culture to their students. Higher education was seen as the final stage where the educational system could prepare citizens for the development of knowledge-based economy” (ibid). Hence, universities are required to play their part and help lift the economy with the sharpest and brightest minds amongst them. The study concluded with the recommendation for more integrated education system for the country, and development of research-culture was suggested as the path towards the brighter future.

It is interesting to know that when the focus was moved towards knowledge and its products, it created an inequality in the society; the collective value was exchanged for the enabler of specific skills; it gave birth to neo-liberalism in education (Sum & Jessop, 2013; Patrick, 2013; Bano & Taylor, 2015). Literature suggests some criticism of KBE in regard to neo-liberalism; research by Sum and Jessop (2013) on the role of KBE in higher education reports that the KBE integrates the cultural and political to turn into economic. They believe that considering the sum of all economic activity, the economy is too complex, and to fully grasp it needs simplification which produces the hegemonic factor (ibid). In other words, “these developments in teaching and research constitute a neoliberal knowledge regime organized towards higher education’s contribution to a global, market-based knowledge economy. The latter is characterized by widening economic inequality, where universities contribute to, rather than ameliorate, widening inequality. At the same time, emphasis shifts from the quality of a system of higher education serving diverse needs, to the placing of individual institutions within a rank order of universities in a global marketplace for education” (Holmwood, 2014, p 63). In other words, KBE creates inequality amongst individuals and institutions by economic favouritism. Therefore, the criticism is that KBE contributes towards the economy, but it stirs widespread social inequality; so instead of collective gain, it specifies importance on individuals, abandoning the rest. The criticism of KBE and its neoliberal agenda is repeatedly documented in the literature. However, before exploring

that, it is important to understand the meaning of neoliberalism in this research, as neo-liberalism takes different forms in different contexts (Apple, 2017).

Olssen and Peters (2005, p 313) portray neo-liberalism as, "at economic level, neo-liberalism is connected to the free-trade or freedom of commerce". Lakes and Carter (2011) report that in the neo-liberal societies, to gain future security for education or jobs, young people have to chase credentials and failure to do so makes it their own fault as they are made accountable for their difficulties. Neo-liberalism has a direct influence on economy through KBE; Sum and Jessop (2013) suggest that:

> 'Higher education is no longer the preserve of a community of scholars and students. The production of knowledge and its transfer is now closely engaged with governments and business/industry in producing industrial and service outputs to narrow the 'competitiveness gap'. This neo-liberalising of knowledge and universities treats the latter as if they are competitive subjects compelled to restructure themselves and reorient their activities to the continually changing imperatives of the treadmill of competition (p 18).'

To put this in perspective of my research, KBE puts emphasis on the importance of knowledge and its components, hence both the National Education Policies of Pakistan 2009, and 2017, were based on KBE. Through these policies, an economically struggling country like Pakistan has started to emphasise the expertise as valuable rather than the physical commodities. The Government was trying to commodify the learning (Patrick, 2013) to show its increased hierarchical status for funding this sector. As explained in chapter one, the education sector has been quite neglected in Pakistan (Bengali, 1999), the socio-political aspect of the policies seems to get promisingly increased fund allocation towards the education sector. Hence, the evident KBE stand of both education policies predicts Government's much required value of the education sector. Looking at neo-liberalism related to the KBE stance of education policies, the Government of Pakistan perhaps has the greater good of society in mind, rather than specific individuals within that society. To understand this notion, Lakes and Carter (2011) suggest that in lesser-developed economies people are exploited by removal of social welfare in the name of progress, and to be secure about future education or work, people have to chase credentials. Thus, creating anxious, misinformed, and fearful humans who are made accountable for their actions in the

society (ibid). However, I personally feel that although KBE may not be a plausible path for some countries, even with its neo-liberal agenda, it seems to fit Pakistani context: even if all individuals are not getting welfare, at least government seems to lay additional emphasis on the education sector, which to me can only bring good results in the future, rather than the previous state of despair.

2.5. Absence of ICTs policy in Pakistan

A brief overview of policy making in Pakistan is important to understand the policy making practices and implementation in the context of Pakistan.

2.5.1. Educational policy making and planning in Pakistan 1947- 2009

A National Education Conference was held in 1947, just after Pakistan came into being. It formed committees for primary, secondary, and higher education, and reported that illiteracy was not confined to rural areas but was a big issue in urban areas as well. It reported the illiteracy rate to be 85% and the suggested five-year plan aimed to execute a programme of adult education to plan, recruit and train teachers (Bengali, 1999). The other recommendations called for the "provision of facilities for adult education on the widest scale and the introduction of a free and compulsory system of primary education to be treated as complementary to one another" (ibid, p 2). It further suggested the setting up of a permanent system of adult education to solve the problem in a period of 25 years. However, the over-ambitious recommendations of the conference, such as universalisation of primary education within 20 years, were not remotely achievable, but it helped place education in the 'crucially important' category. The three basic recommendations made at the conference were:

a) education inspired by Islam;

b) free and compulsory elementary education; and

c) emphasis on technical education (Khan, 1997).

In consequence, the Central Advisory Board of Education was established in 1948 to provide a forum for the discussion of problems of common interest and since then, the Board has published national education policies, five-year plans, and a number of national programs (Peshkin, 1963, cited in Roof, 2015).

After the first conference, there have been a few conferences, policies and plans which followed. Following are brief overviews of these efforts in the field of education by the government of Pakistan in chronological order.

A National Educational Conference in 1951, proposed a six-year National Plan of Educational Development for 1951-1957 (Khan, 1997). The plan identified problems and constraints; lack of trained teachers, poor enrolment of children aged 6-11 years (ibid), failure of political commitment and lack of financial resources (Bengali, 1999).

The *Education Policy 1957* was the first official policy document of Pakistan. It focused on teacher training and primary education. Three consecutive five year plans were published, one before and two after the first policy. The first five-year plan was published in 1955-60 and still focused on primary education and building more schools. The second plan 1960-65, picked up from the disappointment of the first plan, but had its special focus on female education. The third five-year plan 1965-70 had its focus on improving retention rates, and teachers' training.

The new *Education Policy 1970* aimed at "free and universal enrolment up to Class V by 1980, with particular stress on girls' education (ibid, p 6)." However, the military coup of 1977 led to a shift in priorities, and all was postponed until two years later in 1979 when new five-year plans were issued. These plans still had emphasis on primary education with "fundamental reordering of national priorities in favour of primary education (ibid, p 8)."

Along with the five-year plan another education policy was published in 1979. This was the first policy which recognised "the great potentials of our indigenous institutions and patronizing them for bringing about greater educational development (ibid)." Just to be clear, the indigenous refer to the Madrisa system, i.e., the Islamic school system which runs in Pakistan, the details of which are in the next section

'the current educational situation.' The sixth five-year plan 1983-88 placed greater emphasis on national literacy and mosque education (Madrisa) for boys. The 1990s saw a turn in Pakistan's education field with Nai Roshni Schools (meaning new light-rays) to help the drop-outs of school and children of low-income labours.

The NEP 1992 clearly accepted the failures in the field of education in Pakistan and suggested to seek the help of Non-Governmental Organisations. It proposed "to ensure 100 per cent participation of children in education at the primary level by the year 2002, and to eradicate illiteracy through formal and non-formal methods" (Bengali, 1999, p 22).

The last Education Policy of the 1990s was published in 1998 and acknowledged that "Education is now universally recognized to be the prime key to moral, cultural, political and socio-economic development of a nation (ibid)."

All of Pakistan's education policies and five-year plans have had not seen the pragmatic objectives they wished to achieve: research conduct by Khan (1997, p 648) nicely summarises the main areas highlighted by all the educational policies and conferences as: "a) the ideological basis; b) national unity; c) individual development; d) social development; e) economic progress; f) equality of opportunity for education; g) emphasising vocational education; and h) above all, improving the spread and quality of education at different levels." The main aims repeated were primary education for all, emphasis on vocational and adult education, giving equal importance to girls' education and creating opportunities, building and establishing more schools and maintenance of the ones already open, and improving literacy rates. However, Pakistan has struggled since the day of its inception in the field of education and the fact that not a single plan or policy has managed to achieve its objectives (Bengali, 1999) was acknowledged in the subsequent policies. It is interesting to point-out that although ICTs were developed in the 1980s and in the 1990s, and they were becoming a part of education, nevertheless, there was no mention of ICTs nor any other kind of technology until the 2009 education policy of Pakistan.

2.5.2. Introducing ICTs: Educational policy 2009-2017

The research context described in Chapter 1 established that ICT was introduced in Pakistan for the first time in educational policy in 2009. Technology was neither acknowledged in any previous educational policy nor were any guidelines provided for its use in the educational sector. ICT was introduced from the document "National Information and Communication Technology Strategy for Education in Pakistan developed by Ministry of Education, Government of Pakistan in collaboration with USAID (United States Agency for International Development) assisted Education Sector Reform Assistance (ESRA) Programme, 2007" (p 45).

With ambitious aims, Pakistan embarked upon a national education reform agenda and action plan for 2002-2006 with ESRA. This action plan outlined free calls for a brighter education future in Pakistan. The third goal was to assimilate Pakistan into the global framework of human-centred economic development. This included an innovative information and communication technology reform in support of the Government of Pakistan's education sector. Thus, the ESRA programme recognised the need for use of ICT to improve the access or quality of education in Pakistan. Under this influence, the Ministry of Education, Government of Pakistan, initiated the development of a strategy to support the use of ICT in education. The experts and educational leaders brought together and formed an advisory board and steering committee. With technological assistance from ESRA facilitating the whole process, the National ICT strategy report contained six major elements:

1. Use ICT to extend the reach of educational opportunity: use ICT creatively to assist teachers and students with a wide range of abilities and from varied socioeconomic backgrounds.

2. Apply ICT to strengthen the quality of teaching and educational management: use ICT to maximize opportunities for educators' continuous learning and to help educators understand and effectively use ICT.

3. Employ ICT to enhance student learning: integrate ICT into schools and learning centres to support students' self-paced learning and provide them with chances to explore, investigate, reflect, learn social skills (such as collaboration, logical reasoning, and creative expression), and enhance self-esteem.

4. Develop complementary approaches to using ICT in education: support students and teachers in developing key ICT competencies (including sophisticated problem-solving and critical-thinking skills) by treating ICT as a school subject, as well as a critical instructional aid.

5. Build on the current experiences of existing and successful ICT programs: gather, organise, provide access to, share, and use for planning purposes national and international data on effective approaches to using ICT in education.

6. Develop capacity at the federal and provincial department of education levels: form a new government office to represent the cause of ICT in education and advise the MOE.

The strategy was formally approved and adopted by the GoP (ESRA report).[5]

However, when the ESRA report was transitioned to Educational Policy 2009, all these strategic elements were summarised, and it stated that the:

1- Use of Information Communication Technologies (ICTs) in Education shall be promoted in line with Ministry of Education's National Information and Communication Technology Strategy for Education in Pakistan.

2- ICTs shall be utilized creatively to assist teachers and students with a wide range of abilities and from varied socio-economic backgrounds.

3- ICTs shall be used to strengthen the quality of teaching and educational management (Education Policy, 2009, p 45).

In addition to acknowledging the importance of ICT through the directives of ESRA, the Education Policy 2009 prescribed a single policy action towards the implementation of ICT, "ICT must be effectively leveraged to deliver high quality teaching and research support in higher education both on-

[5] National Information and Communication Technology Strategy for Education in Pakistan developed by Ministry of Education, GoP in collaboration with USAID assisted Education Sector Reform Assistance (ESRA) Programme, 2007.

campus and using distance education, providing access to technical and scholarly information resources, and facilitating scholarly communication between researchers and teachers" (ibid, p 59).

Hence, examining the 2009 policy document shows that in 2009, Pakistan's education reforms were just getting ready to say welcome to the ICTs into the education system. The policy document reveals that there was little known for the implementation of ICT in Pakistani context.

The next education policy was published in 2017; however, before publishing it, the Government of Pakistan made a bold decision and held a consultation meeting on ICT in NEP in 2015. The consultation reported that the shortcomings of the 2009 policy were due to the fact that Pakistan's constitution was not supportive of every citizen's right to information. Hence, when the 18th amendment in the constitution was passed in 2010, a year after the NEP 2009 was introduced, it led to a major shift in decision making, and responsibilities. The meeting reported, "Since subjects on which both federal and provincial governments could make laws were devolved completely to the provinces, the old policy was no longer relevant" (NEP, 2017, p 4). The 18th Amendment key shift was section 19A. Rights to information: every citizen shall have the right to have access to information in all matters of public importance subject to regulation and reasonable restrictions imposed by law.

The meeting reported that this amendment was the crucial turning point for Pakistan Government's policy development in terms of ICT introduction and integration. The education policy was reviewed, and the new policy of 2017 was published with much more emphasis on ICT implementation.

2.6. Policy in educational institutions

There are a number of factors when it comes to the transition of policy in education settings. Though, the transition may slightly differ, nevertheless, main factors remain the same. The following discussion is to help understand how policy is adopted and implemented the educational institutions.

2.6.1. Policy implementation

The current state of education in Pakistan is 'very miserable' (Ahmed, 2011). More than 7 decades have passed since its conception and the country has yet to come up with one successfully implemented educational policy (Ali, 2006; Ahmed et al. 2014). In this section, I will look at the way the implementation has been described, factors of implementation of a policy, its main challenges, and its development.

Viennet and Pont (2017) suggest that implementation is the act or process of putting a decision or plan into action; a direct object to action, be it a plan or decision. Shiffman et al. (2004, p 418) describe implementation as "a process for translation of document-based knowledge(policy) into workflow-integrated decision support tool." Although this description seems very true, there is more to it than this. The following describes it in a more detailed manner:

> 'Education policy implementation refers to different realities for different people: educators and students may consider policy implementation as the changes they bring to their everyday practices of managing schools, teachings, and learning. For national policymakers, implementation may refer to what needs to be executed to bring their new policy down to districts and schools. For regional or local policymakers, it may mean making choices about changing priorities, and the use of resources (Viennet & Pont, 2017, p 9).'

Nevertheless, policies are considered as mere guidelines which lack implementation strategy, which is discussed in chapter 6 in detail. Although, according to Siddique (p 115, 2016) report, "policies in Pakistan are centre oriented which creates a gap between policy and practice and creates a lack of social, religious and cultural values" but this is not just the case. The policies in Pakistan do tend to be centre oriented, and neglect the grassroots level implementers (Khan and Mirza, 2011), nevertheless, literature suggest that is not the only issue. Still, there are so many factors involved in policy making and its implementation that one factor cannot be pointed as the main issue. Therefore, there are many things to discuss when it comes to policy making and implementation, but the imperative aspect for my research seems to be the transition of guidelines provided in policy documents to implementation strategy.

2.6.2. Implementation strategy

It is not easy to bridge the gap between knowing and doing (Pfeffer & Sutton, 2000) which is true for technology integration policy. The policies as suggested by the Government require further elaboration for proper execution, and other countries have used strategic implementation plans for these policy implementations. These help the smooth transition from knowing to doing and minimise the misunderstandings.

To understand on what can be done within the contextual confinements of Pakistan for ICT implementation, another research study needs to be included; this research brings forth an added limitation for the implementation of ICTs in Pakistan. Grazzi and Vergara (2012) explored language as a barrier for successful implementation of ICTs in Paraguay. They believe that native language affects the use of ICTs; however, they admit that "while to the best of our knowledge there is no empirical investigation on the restrictions in ICT adoption caused by speaking a minority language in the context of a non-English speaking country" (p 163). Nonetheless, they state that the difference between English speaking language and non-English speakers use does exist. Their study concluded to confirm, with the help of empirical data, that the Guarani (the non-English language they were researching on) language in comparison to English "constitute an important barrier on ICTs diffusion in Paraguay" (p 169). This barrier of language, even though not colossal, is present in Pakistan as well. Later in chapter 5, while conducting the CDA of interview data, this theme surfaced in one of the interviews and is explored in more detail.

2.6.3. Diffusion of innovation

It is interesting to notice that the way the technology is adapted at different levels by different people. It is understandable that as its people's behaviour this cannot be measured scientifically. However, a theory by Everett Rogers in 1962 (MacVaugh and Schiavone, 2010) makes it easier to understand. He proposed that four main elements influence the spread of a new idea: the innovation itself,

communication channels, time, and a social system (Oldenburg and Glanz, 2008) respectively. He believed that this highly depend on human perception and argued that "a great number of personal limitations of the potential user and/or external obstacles like ineffective communication channels may inhibit the success of the adoption process" (MacVaugh and Schiavone, 2010, p 198). This puts the emphasis on the variations of different behaviours influenced by a person's internal reasons or perhaps situational circumstances the person abides by. Nevertheless, the theory stresses the importance of individualistic differences which relates to this study's context well. The diffusion researchers believe that when faced with a new idea, the population can be divided into "five categories: innovators, early adopters, early majorities, Late majorities and laggards" (Robinson, 2009, p 3) see figure 3.

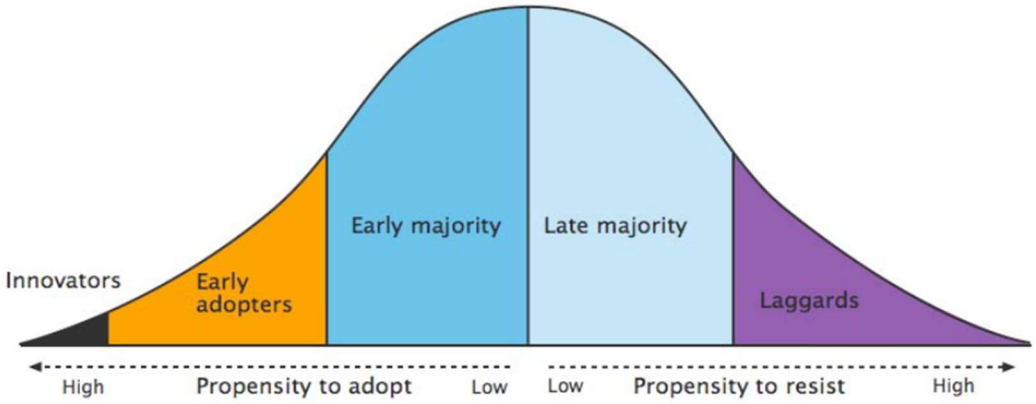

Figure 2.1 A summary of Diffusion of innovation (Robinson, 2009)

To have a brief overview of the categories, innovators are who are ready to new ideas easily and can be called "visionaries, who often lavish great time, energy and creativity on developing new ideas and gadgets" (ibid). They are always ready for welcoming new challenges. Then there are early adaptors who leap in once the benefit of the idea becomes apparent. These people are considered easy audience as they thrive on getting a social or economic edge, which in terms get them followers in majority as long as they have solid proof of benefits (ibid). The early adaptors and early majority both require evidence from innovators to join the field. Then late majority are encountered; this is a majority of people who are risk aversive, like to work from their comfort zone and perhaps fear the failure (MacVaugh and Schiavone, 2010). Which leads to the last group of laggards; people who would not work with the new ideas perhaps it is again due to fear of failure or just because the new idea challenges

their old-fashioned beliefs. The Laggards share most of the fears of Late majority (Robinson, 2009) but the only distinguishing feature is that they are firmer in their own set ways. It is extremely important to understand that these old fashioned or set ways are not being penalised here, but for the sake of this research and the discussion of facing new ideology, they are just being considered as unsuitable for this.

To relate the theory to the context of this research, technology is relatively new in Pakistani education system. The adaption of it is faced with a number of obstacles and one being the adaptation at different levels in classrooms. As it is discussed later in detail, this theory makes the spectrum of behaviour for technology adaptation understandable.

2.7. Knowledge gap

This chapter details the context of Pakistan and the situation of education policies since Pakistan's inception till today. The three systems in Pakistani education system, i.e., English medium, Urdu medium, and Madrisa system, all are quite different from each other. The ICTs implementation is struggling and is only getting scarcely integrated. However, as discussed earlier the level of integration depends on many factors in other developing countries: the lack of resources, lack of funding, inadequate training and skills, and motivation, but for Pakistan there is knowledge gap in the research field. It is impossible to find out the contextual realities of Pakistan without research: to learn if the above stated factors which had proven to influence countries in the same situation in other parts of the world impact Pakistan's ICT integration. As discussed earlier, Pakistan is a developing country with low budget for education and even lower for research (Bengali, 1999), hence there is very limited amount of research done in the field of ICTs policy implementation. Nevertheless, it is to be acknowledged that some research has been conducted in recent years (Abbas et al., 2017; Gul et al., 2017; Khokhar et al., 2016; Zahra et al., 2020) but no research has been done in the KPK province of Pakistan to depict the ICTs policy implementation in the region. Hence, this research is the first to show some realities of ICT implementation in KPK province of Pakistan. In addition of filling in the gap, it is important to understand why this research in the KPK was actually conducted. The new government of Pakistan is trying to invest in education, as discussed earlier, trying to open new universities, establish

research facilities etc, and that is why the government planned new reforms for KPK region. Looking at the situation from a researcher's perspective, as I myself belong to the region, I found that the initiative government of Pakistan is expected to launch has no contextual knowledge base to begin with. The [6]government of Pakistan is in process of comprising a new education policy and for the first time an open consultation invitation has been extended to the general public, and they are encouraged to send in their input, so the government can take help from their knowledge base. Therefore, on one hand this research was envisaged to fill in the gap in literature and on the other to provide the Government of Pakistan my services in shaping the future of ICT implementation in KPK province.

The next chapters will represent the situation of ICTs implementation in Pakistan and the concluding chapter will discuss how the findings from the literature add to the findings of my research. The findings of my research will show the standing situation of Pakistan in education policy implementation.

[6] http://mofept.gov.pk/ProjectDetail/MDJmZWYzOWMtMjA0NC00Yjg3LWE2MGUtOTAxYWU5ZTgwMTBj

Chapter 3: Critical Discourse analysis

3.1 Introduction

This chapter discusses the Critical Discourse Analysis (CDA) as the methodology for this research. It deliberates the theory of discourse, theoretical foundations of CDA which guided to this study. The argument of power within discourse and perceptions about them are also presented in this chapter. The chapter concludes by conferring the translation of CDA for this research. The conclusion also explains the different uses of CDA in this research; difference between the CDA as methodology and CDA as an analytical tool in this study.

3.2 Definitions of discourse

There are many ways the discourse is discussed in literature. Jørgensen and Philips (2002, p 13) states "in many cases, underlying the word 'discourse' is the general idea that language is structured according to different patterns that people's utterances follow when they take part in different domains of social life, familiar examples being 'medical discourse' and 'political discourse'." It reflects that the utterance of people, which is normally called language, is discourse. However, as per Macdonnell's (1986, p 4, cited in Mills, 2004, p 11) definition "whatever signifies or has meaning can be considered part of discourse". The same idea of *meaning* is discussed by Mills (2004), and she states, "it does emphasise the fact that discourses are not simple groupings of utterances or statements, but consist of utterance which have meaning, force and effect within a social context"(ibid, p 11). Both of these shed light on the mechanism of discourse in a society and the *power and discourse* which is discussed later in the chapter.

Weiss and Wodak (2007, p 13), state that "in the English-speaking world, 'discourse' is often used for both written and oral texts." Relating this to Macdonnell (1986), the language, which is spoken, and the

language, which is in the form of text, both are considered discourse for CDA (Mills, 2004). Thus, bringing together both the characteristics discussed power and meaning; any text or speech which convey meaning or/and show any power, to effect situation or people can be considered *discourse.* This raise importance of power and meaning for the discourse.

3.2.1 Theoretical framework guiding the Research

It is to be mentioned here that for this research CDA was not the first choice. Initially this was thought to be an ethnographic study, an approach valuable when a researcher intends to describe a culture and its operation, belief system etc, especially through intensive analysis of a key event (Grbich, 2012). The ethnographic framework was supposed to be blended with policy analysis, because it could not cater for the documents' data of NEPs on its own. So, a combination of both was considered, however, I decided otherwise. Using ethnography approach with blending policy analysis would have been the easy option, but to me that was not what I wanted to do. For my research I found that it was not providing me with the facet I required, and it had more cultural aspect rather than critical. The justification for not choosing the combination of ethnography and policy analysis revealed itself when I looked at the literature it led me to CDA. Considering the different aspects like the notion of power I wanted to observe, the authority I intended to discover in the documents, and the critical approach I aimed to utilise were all together in CDA. In addition, for my research I wanted a uniformity amongst the framework used on all types of data, i.e., NEPs as well as interviews.

Selection of CDA as the framework was due to consideration and deliberation of my RQs, the framework helped me formulate my RQs as well as it guided me on how to address these questions. CDA as the theoretical framework scaffolded this research, aiding the research process and methodological design, which facilitated data collection methods (Owen, 2014). Kress (2008) suggests certain criteria which distinguish theoretical framework for CDA. Although he lists ten items which makes CDA to be considered as a theoretical framework, nevertheless, all of the presented points by Kress (2008) were not related to this research. However, the discussion below, adapted from Kress (ibid) is of the criteria this study considered to particularly relate to for using CDA as theoretical framework.

Language is a social practice of representation and signification, which narrate texts generated within structuring of power as the result of actions of socially situated speakers and writers. In the production of discourse, the relations of participants vary; from no relationship, communication, or support for each other like in power domination, to complete solidarity. Therefore, meanings are subjective in nature, but linguistic features of form and meaning cannot be considered arbitrary. The CDA characterises occurrence of linguistic features as opaque but considers history with the text, and precise description of materiality of language (ibid). There are two significant aspects to be discussed her to understand the discourse, power and discourse, and perceptions about discourse.

3.2.1.1 Power and discourse

Weiss and Wodak (2007,p 15) suggest that the notion of *power* is an important perspective in CDA because they believe,

> 'It is very rare that a text is the work of any one person. In texts discursive differences are negotiated; they are governed by differences in power which is in part encoded in and determined by discourse and by genre. Therefore, texts are often sites of struggle in that they show traces of differing discourses and ideologies contending and struggling for dominance.'

Weiss and Wodak depiction of notion of power in discourse is echo of the believe in CDA that the text cannot be dealt with in isolation but only with its contextual reality (Fairclough, 2004) . To build on this idea, Jørgensen and Philips (2002, p 14) suggest that the *critical* in CDA means "to investigate and analyse power relations in society and to formulate normative perspectives from which a critique of such relations can be made with an eye on the possibilities for social change." So, these power relations are crucial to be dealt with, to gain any change in the perspectives.

CDA offers a critique of the hegemonies established and normalised through discourse, and from the perspective of this research the power that is exercised through the control within the discourse i.e., Education Policies, and power exercised through controlling the context i.e., institutions resistant. Although CDA assumes power relations are discursive (Wodak and Meyer, 2009) nevertheless, it

identifies discourses of power and avoids language that accepts it as normative e.g., the ideology of inequality, influence of culture on our perspective, and cultural reproduction of ideologies (Mullet, 2018). To put this in context, the Education Policies embody the discourse of power which is expected to be extended towards the institutional level execution, however, the inequality within the context creates bias, and the influences of culture reproduction ideology is expressed through the variations of acceptance and implementation of these policies. These patterned mechanisms of power asymmetries are revealed through CDA (Sikandar and Hussain, 2018) which brought invaluable insights to this research study.

Fowler (1981) states that language is a reality-creating social practice, and its power is directive, when it "takes a form that is deliberately constructed to manipulate others (Chimombo and Roseberry, 2013 p 11). If we dig this connection deeper, it is easy to understand the utilisation of CDA as the theoretical framework; exploring the educational policies to find the directive power of written discourse influencing the social reality, in this case, educational institutions, and analysing the discourse for power, hegemonic discourse which lacked power of execution, and inequality or resistance as cultural perspective.

3.2.1.2 Perceptions about the discourse

Fairclough and Wodak (1997) regard CDA as the analysis of the language, but not in its isolated form but in its social setting. They believe it is crucial to understand the context: they consider discourse to be understood through CDA, as the use of language in speech and writing in the form of 'social practice'

> 'Describing discourse as social practice implies a dialectical relationship between a particular discursive event and the situation(s), institution(s) and social structure(s) which frame it: the discursive event is shaped by them, but it also shapes them. That is, discourse is socially constitutive as well as socially conditioned – it constitutes situations, objects of knowledge, and the social identities of and relationships between people and groups of people. It is constitutive both in the sense that it helps to sustain and reproduce the social status quo, and in the sense that it contributes to transforming it. Since discourse is so

> socially consequential, it gives rise to important issues of power. Discursive practices may have major ideological effects – that is, they can help produce and reproduce unequal power relations between (for instance) social classes, women and men, and ethnic/cultural majorities and minorities through the ways in which they represent things and position people (Fairclough and Wodak, 1997, p. 258)'.

Therefore, not only discourse is perceived to be a form of social practice but also socially conditioned through the relationship of every aspect of a society. Fairclough and Wodak, again and rightly so, discuss the notion of power in discourse and the way it shapes practice and positions in a society.

According to Henry and Tator (2002, p 25), "Discourse is the way in which language is used socially to convey broad historical meanings. It is language identified by the social conditions of its use, by who is using it and under what conditions." Thus, understanding this was crucial for my research as the perception of discourse depends very deeply to the origin of discourse or in this research, the discourse of interviews. The critical discourse analysis takes particular interest in the relationship between language and power, and Weiss and Wodak's work on CDA resonate what Henry and Tator (2007, p14) stated , "language is not powerful on its own – it gains power by the use powerful people make of it" therefore their relationship is to be understood from the perspective of this research. This framework helped in shaping this research; as discussed previously, the aim of this research was to find the implementation of ICTs in education and for that initially the educational policies were to be explored. However, the perceptions of discourse were not thought to be situated in the social-reality until this research included interviews from the stakeholders of the educational system. As CDA emphasises the need for interdisciplinary work to gain a proper understanding of how language functions in constituting and transmitting knowledge, in organising social institutions or in exercising power (Weiss and Wodak, 2007, p 14) these interviews provided voice to the utterance, the power to discourse through their positions as educators and decision makers of educational system.

3.2.2 Methodological foundations of CDA

The kind of analysis CDA offers incorporates characteristics and processes that are common to approaches described by the network of CDA scholars which include "a problem oriented focus, an emphasis on language, the view that power relations are discursive, the belief that discourses are situated in contexts, and an analysis process that is systematic, interpretive, descriptive, and explanatory (Fairclough, 2001; Kress, 1990; Van Dijk, 1993; Wodak, 2001, all as cited in Mullet, 2018, p 120)" which makes it possible to use in variety of disciplines such as education.

There are two aspects of analysis discussed by Fairclough et al. (2011) that needs to be discussed, which makes it possible to understand the perspective of use of CDA for this research.

Fairclough et al. (2011), believed that dealing with power relation of language is what makes a discourse analysis *critical*. Through a long discussion of power within the language, they advocate that language express power, "language provides a finely articulated vehicle for differences in power within hierarchical social structures," (p 361) and goes on to suggest that power within text exerts "person's control of a social occasion by means of the genre of a text. It is often exactly within the genres associated with given social occasions that power is either exercised or challenged". This implies that hierarchical structures afford power in discourse. Therefore, to discuss the above mentioned in relation to my research, the power of the education policy was very directive in nature. Nevertheless, the hierarchical social structures provided the educational institutions the power to control. This was related to second part of this research in which the way the ICTs are implemented in different higher education institutions, was discussed. The interviews were formulated with the consideration of CDA as the theatrical framework and explored whether the policies were executed as they were or were challenged at different levels at different institutions.

The second aspect to be considered was the move from genre and context, i.e., education and higher education institutions , to an examination of grammatical language (Chimombo and Roseberry, 2013). Therefore, the written discourse included in this research, of educational policies and of the interviews were grammatical analysed. However, as discussed earlier linguistics features of form and meaning

cannot be considered arbitrary, nevertheless, they are opaque (Kress, 2008) and to understand them, their history of utterance, i.e., speakers and writers, are to be kept in consideration (ibid). Therefore, this study utilised the three-level analysis at micro, meso, and macro levels (Fairclough, 2001; Fairclough, 2004). The linguistics features are dealt at the micro level, the contextual realities at meso level and the final level deals with the social level interactions of discourse within a community, i.e., educational institutions, the details of which are in the later chapters.

3.2.3 CDA in education policy research

Educational policy research is a very broad and multi-faceted field (Anderson and Holloway, 2020) and they have utilised a variety of analytical tools. In recent years the CDA has been quite a favourite of the researchers for educational policy research (Wodak, 2002; Fairclough, 2003) and widely used in education and education policy research (Rogers et al., 2016). A study by Anderson and Holloway (2020, p 27) which analysed 37 studies found that although the discourse in these studies may have been analysed differently in terms of weight distribution of elements i.e., ontological and epistemological stance, however, the analysis showed that they are "practical(ly) complementarity via their demonstration of the complexities of policy development and the context-dependence of policy effects….as (this analysis) offers invaluable tools for understanding the 'how' and the 'why' of education policy (rather than just the 'what' or 'whether')." Thus, understanding the how and why provides an appreciation of CDA being more suitable to educational policy research. In addition, another study by Lester et al. (2016, p 4) on the application of CDA in education policy details, "CDA offers a comprehensive toolkit with a wide range of possibilities related to education policy research that has at their core, an understanding that language is both the content and conduit of policy. Thus, studies of language can illuminate not only the substance or impact of education policy, but also the processes by which such substance and impact come to be and come to be understood." This is very much related to my research as the content of education policy is what this study is based on, nevertheless, for my research the conduit of education policy is equally important and crucial to understand.

3.3 Conclusion

To conclude, we understand that this chapter discussed CDA as a theoretical framework which considers language in all its entirety. Language is connected to its history (Kress, 2008), it develops as a social practice (Wodak, 2002), it manipulates and influence others through its power (Fowler, 1985), is the result of actions of socially situated speakers and writers (Kress. 2008) and is rarely work of a single person (Weiss and Wodak, 2007). Linguistically, CDA considers language opaque, but meanings and forms cannot be considered arbitrary, and believes in the precise description of materiality of language (Kress, 2008).

Before proceeding to the analysis in the next chapters, there is something I would like to explain, as mentioned previously, my research uses Critical Discourse Analysis. However, I use CDA in two ways; firstly, CDA is used as a theoretical framework in this study. It guided the study and modelled its shape. As presented before, it helped the study to investigate in the way presented in the later chapters, i.e., critical analysis of educational policy and interview data. Secondly, CDA was also used as the device by which the data in this study was analysed, i.e., analytical tool. The data from both the policy documents and from interviews were critically analysed at three levels of micro, meso and macro, as given in later chapter. Nevertheless, an important explanation for this study is that the CDA used as the theoretical framework was influenced by the works of Fairclough, Weiss, Kress and especially Wodak (Wodak, 2002; Weiss and Wodak, 2007; Kress, 2008; Fairclough et al., 2011). Although, CDA utilised as analytical tool was influenced by Fairclough's three level of analysis at micro, meso and macro (Fairclough, 2001; Fairclough, 2004).

The next chapter discuss the methodology by detailing the qualitative approach of the study, the levels of CDA utilised as the analytical tool, and argues the appropriateness of the selected research methodology of the study.

Chapter 4: Methodology

This chapter details and discusses the value of qualitative research in the study of education policy, the purpose of the methodological approach offered by Critical Discourse Analysis (Fairclough, 2001), the three levels of CDA exploring the policy documents, and data selection. This chapter sets out the philosophical underpinnings of the CDA, as presented in the previous chapter and argues its appropriateness as the research methodology for this research, which is in detail later in the chapter. This also illustrates what the three levels of CDA mean for this study in particular, and how they were used to interpret the data. This chapter is based on the premise of chapter 2 and the literature discussed in it, to help understand the interpretation of data in the later chapters. It is to be understood here that the previous chapter ' Critical Discourse Analysis' provides details of what is meant by CDA, how it is translated and utilised generally, but this chapter continue and building on chapter 3, shows how CDA was used in my research, what it means to use CDA in a research as analytical tool, and the use of its three levels for my research. Hence, this chapter is to help understand 'how' CDA has been used in this research.

4.1. Introduction

As previously stated, technology in education was introduced in Pakistan in the late 2000s. Subsequently, it was neither part of the education policy nor was considered for any development or reforms till the education policy of 2009. Pakistan, being a developing country, has limited resources and budget allocations for education (NEP, 2009). In addition, since its inception not a single education policy can be called successful and fulfilling its objectives (Bengali, 1999; NEP, 2017). Hence, the take on technology for educational purposes faced backlash, problems, and budget confinements. All these factored for the very slow progress on technology integration in education, and any research on it. It

should be made clear that all universities in Pakistan did not has research culture until 1997, when Pakistan had its third military government. The general who took over, General Pervaiz Musharraf, triggered a wave of education reforms. Some of them were establishing new research universities, reforming old schools of thoughts through new recruitments of foreign qualified personnel, and most notably allocating budget grants more to the universities which produce more research. This incentive gave a huge push to the universities to produce more and more research, in different fields including education (Bengali, 1999) and technology.

Although Pakistan has come a long way since then, however, not as much as was possible especially in KPK province. Keeping this initiation in mind, the purpose of this study was to investigate the position of ICTs in Pakistani education, policy and practice both, for higher education institutions in KPK province of Pakistan. This study aimed to find answers for the following research questions and sub-questions

RQ1. What does textual analysis of Pakistan's NEP inform us about ICTs in education?

a. What does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in theory?

b. What are the determinants involved in the process of policy implementation?

RQ2. What does the interviews of stakeholders at institutional level reveal in connection to Pakistan's NEP for the ICTs integration in Pakistan's education system?

a. How does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in practice?

b. What facilities are in place for this implementation?

4.2. Critical Discourse Analysis in Qualitative research

This qualitative research uses CDA as methodology. Although, CDA has its own research approach having a political agenda, and qualitative research is more general in comparison, nevertheless, in this

research CDA was used as a qualitative analytical approach. Thus, first qualitative research is discussed in general, and then this qualitative research is transitioned into a CDA as methodology to show how this research was shaped.

Researchers knows that a choice of a method should not be predetermined, and no method is better than other, as Silverman (2013, p 11) states, "never assume that qualitative methods are intrinsically superior. Indeed, a quantitative approach may sometimes be more appropriate to research problem in which you are interested. So, in choosing a method everything depends upon what you are trying to find out." According to Silverman, it is the researcher who choose a method that is most appropriate to whatever he (sic) is trying to find out rather than a predetermined notion of a research method. He is of the view that methods are tools, which should properly be used as and when needed. Corbin and Strauss (2014) describe qualitative research as a broad umbrella term for research methodologies that describe and explain persons' experiences, behaviours, interactions, and social contexts without the use of statistical procedures or quantification. So, to put it together, qualitative research is an appropriate methodology which describes interactions in a social context and explains people's experiences. However, as pointed out by Fossey et al. (2002, p 723), the "evaluation criteria need to be consistent with the philosophical position (paradigm) and aims informing the research method." The researcher needs to be aware of the paradigm and the aims, and he needs to be in control of their coherence in the research method to illustrate the true essence of the research. Nevertheless, the main quality of qualitative research is its representation of the authentic participants' perspectives, through a rigorous research process, and the true interpretation from the data so "the findings are coherent in the sense that they 'fit' the data and social context from which they were derived" (ibid). Here, the importance of standards for ethics in qualitative research are highlighted with the relations between the researcher and researched, and the need for transparency of data collection, analysis, and presentation (Lincoln, 1995). It is important to point out the two obvious features of an authentic qualitative research; it needs to be transparent, and it shows the relationship of the researcher with the given context whether it is a person or a social setting.

The qualitative researchers, according to Denzin and Lincoln (1998, p 8) "stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational

constraints that shape inquiry." Hence, this kind of a study constantly seeks the interpretation of participants' perspectives as an expression of naturalistic comments and natural social experiences. Some researchers like Davies (2004) believe that the quality of qualitative studies is to try to understand any social context or a social phenomenon of individuals or groups, as they authentically experience it, without manipulating or changing, for statistics sake. Therefore, this particular methodology is very suited for any policy interpretation.

My research is to explore the contextual realities of the implementation of NEP in a developing country, Pakistan. For the sake of this research, interviews were conducted, which as Davies (2004) suggested was an attempt to understand the phenomenon as it was experienced by the individuals without manipulation. Also, as the interviews were providing me with the authentic experiences, behaviours, and interactions within a social context without the use of statistical procedures or quantification (Corbin & Strauss, 2014), qualitative research best suited my research.

4.2.1 Qualitative research for educational policy

The literature suggests that there is a big contribution of qualitative research in the field of policy making. Research done by Hammersley (2000), Vulliamy (1990), and Kerrigan and Johnson (2019) are some amongst others, which prove the usefulness of qualitative research in policy making over quantitative research. Davies (2004) suggests that qualitative methodology in studying policy provide not only provides flexibility and a range of methodological tools but also an extensive exploration of multiple issues within the same analysis from several different perspectives. In his research, Maltby (2008, p 87) discusses Davies's point of view. According to him, the qualitative interpretative approaches are well suited to policy research, "particularly in instances,

- where a policy or social context is not well understood, and the evaluation questions issues or criteria which are not immediately obvious,
- where 'insider' values and perspectives are particularly important as well as the 'official' perspective,

- where diversity in how the policy operates across different sites or services needs to be understood." (Davies, 2004, cited in Maltby, 2008, p 87).

These points from Maltby relate to my research greatly as the interview data reveal that the policy documents are not understood very well and are ambiguous to understand, discussed in detail in chapter 5. To understand the policy implementation and to interpret the policy, the official or in my case 'Governmental' perspective is invaluable; nevertheless, the views of the stakeholders like teachers and administrators who implement the policy are crucial too. The third point brings the needs together, as to understand the implementation in Pakistan at different institutes, my research is fundamentally important to bring the realities to light.

Maltby (2008) views these kind of research methodologies to be of a particular value because "they can also,

- provide new insights into the implementation or experience of the policy,
- check for unintended or perverse consequences of the policy or project,
- explore the complexity of what goes on, in its natural settings,
- explore 'taken for granted' practices, lay behaviour and organisational cultures." (ibid, p 87)

To get a better understanding of these, we need to put these in perspective in detail. My research is in a developing country, Pakistan. The contextual expectations, like any other developing country of the world, are average facilities in education, low literacy rates, lack of profound research, issues regarding different services which then leads to differences between insider perspectives and official versions, misunderstanding of these differences and complex relationships (Bengali, 1999). Therefore, to get an understanding, a qualitative approach provides an opportunity to explore the complexity of these relations. Vulliamy (1990) conducted research to understand the contribution of qualitative research in education policy-making in developing countries, in which he suggested that given the scarce resources in developing countries there is widespread agreement that qualitative research usefully informs the process of educational policy-making. It is important to mention that research (Burgess, 1982; Warwick, 1983; Vulliamy, 1990) shows that some questions are more appropriately answered through the use of

a combination of qualitative and quantitative strategies; however, it is on the nature of the research to decide which kind of methodology it requires. In the case of the present research, I am using a qualitative research methodology due to a number of reasons: to highlight that social context is not well understood, the policy needs interpretation to transform into implementation, to explore the complexity of natural settings, to get an insight in the experience of using the policy, and to have an authentic view of the organisational cultures regarding policies. Hence, despite the merits it seemed not too appropriate for this study, so I chose a more specific/political approach like CDA.

As stated in chapter 3, the term 'Discourse' is used in the literature to describe different kinds of communications; written, spoken or narrative (Fairclough, 2001). In linguistic terms, "Discourse may consist of only one or two words… Alternatively, a piece of discourse can be hundreds of thousands of words in length, as some novels are. A typical piece of discourse is somewhere between these two extremes (Hinkel & Fotos, 2001). A purely linguistic definition sees discourse as "language above the sentence" (Schiffrin, 1994, p 23). However, in social sciences, discourse adds a dimension; Fairclough and Wodak (1997, p 453) describe "discourse as a count noun, as a category for designating particular ways of representing particular aspects of social life, e.g., it is common to distinguish different political discourses, which represent for example, problems of inequality, disadvantage, poverty, social exclusion, in different ways". Arribas-Ayllon and Walkerdine (2008, p 110) refer to discourse as to be "institutionalized patterns of knowledge that govern the formation of subjectivity." Hence, in social sciences the discourse may have sub-genres, which must be contextualised. Here we need to understand that it is important to know these categories for a detailed analysis. For example, the discourse of a political speech is quite different in different contexts, while analysing them we need to be sure of what their purpose is, the situation they were delivered in, audience, etc. Edley (2001, p 191) explains that discourse extends beyond language to include "a whole range of different symbolic activities, including style of dress, patterns of consumption, ways of moving, as well as talking". Charlebois (2010) suggests that the examples include medical discourse, academic discourse, legal discourse, political discourse and so on. In my research, two types of discourses had been used; the first was the written discourse

from the National Education Policies documents of 2009 and 2017. This discourse was contextualised (Arribas-Ayllon & Walkerdine, 2008) and was related to the aspect of policy implementation (Fairclough & Wodak, 1997). Hence, for analysis, we need to understand the sub-genre of the policy discourse being socio-politically influenced written policy guidelines for implementation. The second type of discourse used in this research was the spoken discourse collected through conducting the interviews. The interview discourse has to viewed "as an expression of something else, such as attitudes, cognition, emotions and so on" (Van den Berg, 2003, p 119). This type of discourse is not pre-meditated; hence, the spontaneity brings out the feelings of the interviewee to the discourse. However, if this study was only analysing interview discourse, the most suitable analysis would be through conversation analysis (Haworth, 2006) where the emphasis is on the micro features and its sequential organisation, i.e., linguistics features and syntax respectively. But, as this study had a broader focus than the data themselves and their features, linguistically, hence Critical Discourse Analysis seemed more pragmatic to answer the research questions of this study.

The term discourse analysis refers both to the production of knowledge through language and representation and the way that knowledge is institutionalised, shaping social practices and setting new practise into play (DuGay, 1996). Critical Discourse Analysis is usually abductive, that is, "a constant movement back and forth between theory and empirical data is necessary" (Wodak, 2006, p 200). Buchanan (2008) suggests that discourse analysis and critical discourse analysis are different in a very distinct way; the former suits linguistics and the later social sciences more. He explains a 'weak' and simple description of structures of texts and talk may be called discourse analysis, while a 'strong' and complex way involving analysing the connection between discourse and social structures is critical discourse analysis (CDA). Arribas-Ayllon and Walkerdine (2008, p110) suggest "given the variety of approaches that now exist, discourse analysis means different things to different tribes within the social sciences". To understand the meaning for my research, we need to link the feature of Fairclough's CDA to my research aims. As presented in chapter 4, Fairclough's model examines the objects of analysis through micro-analysis, the processes by which the object is produced through meso-analysis, and the conditions which govern these processes by the means of macro-analysis (Janks, 1997). Hence, this

study used CDA as proposed by Fairclough because the way the discourse is offered (documented forms of policy, and verbal communication as in interviews), the way it was made (written, verbal), and the influencing conditions of them, greatly relate to the RQs of this study. For example, a study conducted by Boda (2019) investigating power and agency in singular diversity-requirement education courses, utilized CDA for this research. Boda explains that this allowed him to have analysis of the context, by doing the three-level micro, meso and macro level analysis of the participant interactions. This interaction at institutional level brings forth the hegemonies within the context, making the dynamics of power resistance and asymmetry of powers more distinct. In addition, CDA offers a critique of the ideologies reproduced and hegemonies established and normalised, stressing the agency at work within institutions.

In the literature, we find Discourse Analysis in different variations, drawing on wide ranges of theoretical traditions (Titscher et al., 2000). However, before detailing these, I would like to present the main elements of CDA as presented in literature.

Agenda: When dealing with language, CDA moves us from seeing language as an abstract to seeing it as having social and political influences (McGregor, 2010): it positions the language in its environment. Hence, it is appropriate to say that the discourse CDA aims to analyse is socially constructed as well as socially conditioned (Mogashoa, 2014). The second element CDA brings to the fore is the discursive practices contributing to power relations, as suggested by Lucke (1996) discourse is subject to inter-subjectivity which is the social and discursive relations between humans and texts. This also relates to the first element of language to be seen as situated. And the third very interesting agenda CDA deals with, which stems from the second, is the importance of analysing, critiquing and reflecting on the social context, given the discursiveness of language originates from it (Mogashoa, 2014). This includes the actual texts and the process involved in making them. Hence, to conduct a qualitative CDA the analyst describes the texts in its original basic form, interprets its discursive practices, and highlights its relationship with its contexts for better understanding and analysis.

After understanding the agenda of CDA at different levels, I present the use of CDA as proposed by Fairclough (2001). For this research, the above mentioned three agendas were analysed through Fairclough's model of CDA, which as Taylor (2004, p 2) details: "Fairclough distinguishes between the approaches which pay close attention to the linguistic features of texts - which he refers to as 'textually oriented discourse analysis' - and those which do not." She continues and suggests that Fairclough's CDA, in fact, draws on Foucault's CDA, "The latter approaches (of Fairclough), often influenced by Foucault, generally focus on the historical and social context of texts and usually give little close attention to the linguistic features of texts" (ibid). Taylor (2004) believes that Fairclough's CDA works with a wide range of disciplines at different levels of analysis. She further suggests that Fairclough's approach is interdisciplinary, and that "it opens a dialogue between disciplines concerned with linguistic and semiotic analysis... and disciplines concerned with theorizing and researching social processes and social change" (ibid, p 2). In his earlier works, Fairclough's (1989) model for CDA consists of three inter-related processes of analysis tied to three inter-related dimensions of discourse. These three dimensions as presented in Janks (1997, p 329):

1. The object of analysis (including verbal, visual or verbal and visual texts).
2. The processes by means of which the object is produced and received (writing/speaking/designing and reading/listening/viewing) by human subjects.
3. The socio-historical conditions which govern these processes.

Examining closely, these three relate to a different dimension of analysis. To link it to my study, the objects of analysis are the two policy documents. The form they present are written documents by policy makers for the government. The socio-historic conditions which govern them are the contextual realties of Pakistan.

The same thought is expressed by Fairclough (2001, cited in Janks, 1997, p 329) for the above three dimensions as, according to him, each of these dimensions requires a different kind of analysis. They are, as he puts it, his three levels of CDA:

1. Micro level: text analysis (description),

2. Meso level: processing/discursive analysis (interpretation),
3. Macro level: social analysis (explanation).

To understand the reality of this three-level analysis for my research, from the Education Policy documents of 2009 and 2017, they are presented as follows.

4.2.3.1. Micro level: Text analysis

Any text, when looked at closely, shows multiple-patterns. The textual patterns are never linear but complex in nature. These patterns are used in accordance to the usage of the intended text. While structuring a text using one pattern, Al-Ghazali (2007) suggests, it does not mean that we need to preclude other forms of patterning. However, these "textual instantiations capture the clash of discourses and demonstrate ideological forces at work to produce a different hegemony" (Janks, 1997, p 335). Hence, the first level of CDA is to analyse these patterns to understand the meaning of the discourse through the language. Lester et al. (2016) calls the language as *performative*; whether intended or not it is always doing something with consequence. They argue that it is through language that one goes about "constructing their identity, ascribing identities to others, positioning others, etc." These ideas certainly predate discourse studies and discourse analysis, as they can be traced back to linguistic philosophers such as Wittgenstein (1958) and Winch (1967, both cited in Lester et al., 2016, p 3). Hence, this type of analysis lies in the area of linguistics. When doing a CDA in linguistical studies, the textual analysis is carried out through the patterns in syntax, certain rhetorical devices, semiotics, and literary analysis (Uzuner-Smith & Englander, 2015). However, depending on the nature of the research it may vary in different types of studies. Nevertheless, regardless of what type of text is used as the unit of analysis, the goal of existing CDA research is to "make proposals for change and suggest corrections" for the empowerment of those who are disadvantaged (Blommaert & Bulcaen, 2000, p 449) through textual analysis. Uzuner-Smith and Englander (2015) suggest that most of the policy texts, when analysed, are political in nature because of the political nature of the policy-making process. Hence, these policy texts may use rhetoric and metaphor to persuade and influence the readers (Edwards

& Nicoll, 2001). The persuasive and influential style of policy writing is further discussed later in the chapter.

Fairclough (2001, p 241-242) suggests a way to do a textual analysis; he proposes the following aspects of the texts may be examined:

- whole text organisation (structure, e.g., narrative, argumentative, etc).,
- clause combination,
- grammatical and semantic features (transitivity, action, voice, mood, modality),
- words (e.g., vocabulary, collocations, use of metaphors, etc)..

Taken from Fairclough, the textual analysis here emphasises on domains of genre and discourses as they relate to the policy text through discursive (meso) and social (macro) analysis, with scrutiny of linguistic, lexical and grammatical cohesion (micro). However, the way the analysis itself is done is not as simple as it might seem. According to the conventions of CDA, if the analysis is done using all the suggestive parts and structures of a complete textual analysis the research will obviously stray from its path; every research does not require all the linguist parts unless the research is on the linguistics of text. Hence, this research looked at the structures, which were believed essential and considered the linguistics unnecessary for this study.

While doing the textual analysis for this research, the first aspect was to look at the model verbs for finding out the modality. The use of these shows the attitude of the writer or speaker of the discourse towards the action, the intensity of the model verbs the higher the expectation for the action or vice versa. All the data is pointing to the fact that the assertiveness of the policy-text from the Government's stance expresses the Government's expectation from its policy. The use of higher modality words establishes the tone of need, obligation and requirement, discussed in detail in 4.3 'The Analysis'. The other degrees of modality words keep on reducing in intensity; from essential requirement to strong recommendation and then suggestions, to the lowest of merely stating the information. Other than the modality, the aspects analysed for this research's linguistic analysis, to repeat again, were the ones only

found to be most helpful for the findings. Some included are exploring the vocabulary, use of tenses, reiteration, etc.

4.2.3.2. Meso level: Discursive analysis

The meso level is referred to as an intermediary one, which "serves to make explicit the transitional link between the micro and the macro, and to comprehend organic change through the seamless and unbroken lineage of translation and transmission of movements" (Talib & Fitzgerald, 2016, p 6). The meso level represents a middle space to contribute to the understanding of textual analysis. Li and Wu (2019, p 435) believe that the meso level of CDA is the interpretation: "the processes of production and interpretation of text, which means when analyse the language of text, the way discourse production and interpretation in society should be taken into consideration." So, by default, an extension to the micro level, the meso level produces an explanation.

However, Taylor (2004) believes that there is more to just being a mediator of two levels. She suggests that it also serves the purpose of inter-discursive analysis; identifying and analysing the genres and discourses within the texts and working together. Fairclough (1992, p 97) believed that at this level the producers and interpreters "combine discursive conventions, codes and elements in new ways in innovatory discursive events, they are of course cumulatively producing structural changes in the orders of discourse, and re-articulating new orders of discourse, new discursive hegemonies". These new hegemonies lay the foundation for the contextual analysis and shift the focus from the text to the societal currents. Fairclough (2004, p 120) argues that the network of social practices has an *order of discourse* which are not linguistics structures; however, intermediate organisational entities of specifically linguistics sorts and hence "they control linguistic variability for particular areas of social life. Thus, orders of discourse can be seen as the social organisation and control of linguistic variation."

Therefore, it is easier to assume that the meso level analysis, which is an order of discourse, will have both textual and social elements in it, which Fairclough refer to as *variations.* Nevertheless, it is very interesting to notice the details; if meso level is just an extension to both other levels, then how can we

distinguish a level, even if we believe there is one. One can argue that the textual level analysis extended its characteristics, just like macro level social analysis, to fill the gap in between and meet each other half-way. Text with genre and society with specific context eliminates any need for a meso level. However, the truth is the contrary; Fairclough (ibid) informs that "it becomes increasingly difficult to separate language from other social elements; language becomes increasingly over-determined by other social elements." Thus, it becomes clear that meso level is required to make sense of micro and macro level.

The meso level analysis in this research, as discussed, is combined with the linguistics analysis to give them both a complete understanding. This works as a connector of text to society; this level of analysis gives name to face so the context is set for the social analysis. Serpa and Ferreira (2019) acknowledge this by calling this level having heuristic capabilities to aid between micro and macro levels. Goziyah et al. (2018) believe that the discursive practice at this level requires the explanation of the discursive processes. They suggest that there are three aspects of discursive practice which interpret the processes for further explanation, they are production, distribution, and consumption. The process of production connects to the textual analysis level; vocabulary, semantics, modalities, etc. form patterns for the discursive practices to journey into the distribution. The consumption phase links to the macro level and lays ground for it to build on.

The three levels of CDA are described in many ways in the literature depending on what was required of the analysis (Horsbøl & Lassen, 2012); some did top-down analysis, some research utilised bottom-up approaches (ibid). However, in this research, the meso level was done in parallel to the micro and is presented with the micro-level analysis. The researcher believes that the meso level is very important in highlighting the facets of micro and macro levels which are to be analysed in the research, especially the micro level analysis requires the help of the meso level to make sense of it. Hence, obtaining better understanding, both are presented side-by-side.

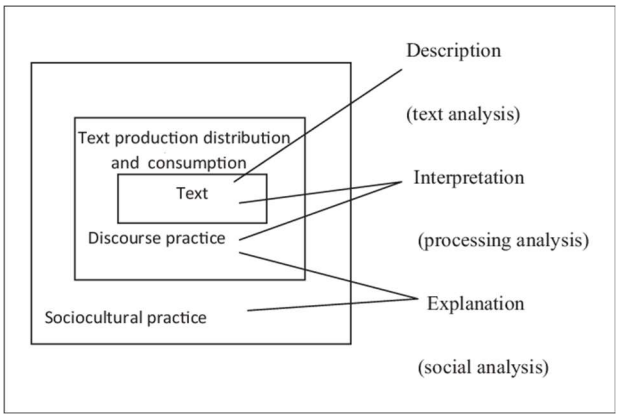

Figure 4.1: Fairclough's three-dimensional framework for analysis of discourse. Dahl et al. (2014)

4.2.3.3. Macro level: social analysis

This type of analysis can be called an overview of the whole researched phenomena. It can be an outlook of global structures, or social-macro structure, or even higher-up elements (KhosraviNik, 2010) from a society, a country or a worldview point (Uzuner-Smith & Englander, 2015). Through this analysis the "analyst is concerned with inter-textual understanding, trying to understand the broad, societal currents that are affecting the text" (Hussain et al., 2015, p 246).

Hence, to understand the analysis, we need to be aware of the specific context of these texts. These texts are taken from National Education Policies 2009 and 2017. The analysis is only done on higher education, as that is the context for this research. In Pakistan, higher education starts after intermediate or higher secondary level. The HEIs in Pakistan are classified in three categories; degree awarding institutes or chartered universities, and colleges or institutes affiliated with the degree awarding institutes. NEP 2017 (p 76), details these in three separate categories, which are:

Tier I: High quality research universities, which has demonstrated excellence in their programmes, teaching-learning processes, and worth of their products in terms of competence of graduates, eminence of its research work. Tier I HEIs contribute significantly towards creation, validation, and dissemination of new information and knowledge. Over the time, Tier I higher education institutions or universities,

based on their academic excellence, repute, and benefits to the society are up graded and transformed into fully autonomous corporate enterprises and attract finances both from the public and private sectors.

Tier II: These are degree awarding institutions that predominantly cater to the learning needs of general masses and provide trained human resources for national economy. Mostly, such middle level universities in Pakistan are financed by the public sector. Tier II universities are also found in private sector, but their fee and service charges are affordable to only middle class or wealthier families of the society.

Tier III: These are the colleges or institutions affiliated with Degree Awarding Institutions (DAIs) and follow curricula of their parent universities. These colleges are large in number and spread across the country.

However, the access to higher education is a formidable challenge (NEP, 2009), considering the country's socio-economic background. In recent years, the total enrolment in higher education institutions in Pakistan has increased; nevertheless, the gross enrolment ratio in higher education was just 10% during 2015-16, which is lower than many other developing countries of South Asia (NEP, 2017, p 77). Amongst others, the main reason stated in 2017 in the NEP is the university fees; universities get about 40% of their budget through fees from the students and as the public sector universities are insufficient in numbers to meet the demand of low-income families, the parents are unable to pay exorbitant fees of private sector universities, and the resultant participation rate at higher education level remains low. In terms of ranking, till 2017, none of Pakistani universities have so far been able to secure a place in the list of the topmost 100 or even topmost 500 universities of the world (ibid).

4.3. Research Methods

In this section, the details of the execution of this research are discussed.

4.3.1. Topic and context selection

The research done in Pakistan in the field of education was mostly on the lines of teachers, primary, secondary, higher-level education, etc. The literature informs that for technology integration it was rare to find research on technology in education unless it was on ICT as a subject. Much research can be found on technologies, ICTs and communication technologies done in Pakistan, most dealing with them as subjects or fields. After 2010, there are a number of research studies on technology integration; however, almost all of this research is contextualised in private schools as these were the only places where the technology was actually available and used. The literature lacked in this area and a gap was discovered that no research on technology integration has been carried out in Higher Education Institutes, on their own, or as a comparison with private/autonomous institutions.

In addition, the context needed to be filtered. This research could not cover the whole of Pakistan as there were too many universities and one researcher could never do justice with this scale of research. Hence, the context needed to be specified: for addressing the issue on hand and doing justice to the research. The first factor which was considered was familiarity; I myself belong to the KPK province. As a novice researcher, it was important for me to concentrate on one factor, i.e., the topic of the research; therefore, I did not want any distractions at this stage which would come if I did not understand the context appropriately. The second factor was geographical scope, as I understand the contextual realities of Pakistan. Therefore, no data could be collected if the research had been in other parts of the country, as I could not manage that financially and logistically to collect data. Hence, to be able to physically collect the data was the only means possible and therefore I chose KPK as the context of this research.

It is also worth mentioning that data are collected from the city of Peshawar, which is the provincial capital, other than one university which is, nevertheless, part of the Peshawar district (like Greater Manchester). The reason was twofold: first, Peshawar being the provincial capital, is the only city with universities which have technology, and secondly, it was easier to physically collect data from this part of KPK. The one university which is not in the city is just outside the city limits and as mentioned is considered inside the district area. Although ethically bound, these universities cannot be named, still

general introduction is sufficient; all of these are higher education institutions, which teach a range of subjects, and by this it is to be understood that they are not technology colleges or engineering universities, nevertheless they do have technology and engineering as their departments. Students range from undergraduate to master's and Doctorate level. The number of students attending these vary but none of the institutions included in this research were newly established.

4.3.2. Data collection: Two types of data

This research deals with two types of data: the first type of data is from the education policy documents of government of Pakistan from NEP 2009 and 2017. The second type of data is from the interviews, collected from 11 different institutes of the KPK region. To clarify the need for the two types of data, it is significant to understand that this research was looking at integration of technology in classrooms and to me as a researcher it was clear that if we only looked at what the government has published in the education policy, then we would only be looking at one side of the story. To understand this phenomenon completely, I found it crucial to paint the full picture, which could not have been done with only the published policy. Therefore, the need to present contextual reality was unquenchable. For this reason, interviews were added as a data source to this research: the interviews were collected from heads of the institutes, directors of the courses, administration staff dealing with technology implementation in the university, and some teachers who were actually using technology in the classroom. This helped in answering the second question of this research, "*how does the policy for the integration of ICT function in Pakistan's education system?"* by presenting the views of people entitled to implement the education policies in their respective institutes.

4.3.2.1. Policy documents

There were two policy documents used: the education policy of 2009 and the education policy of 2017. The focus of this research is to look at the integration of technology in education, so it was important to understand the education policies which were nominating technology to be used in classrooms. As stated previously, Pakistan's government publish education policies every 7-9 years. Looking closely at the education policies published by the government of Pakistan, it was found that only the last two policies, i.e., 2009 and 2017, were the ones which explored technology as potentially to be used in

education. The policies prior to 2009 did not acknowledge any part of technology in education, which seems justified as at the turn of the millennium Pakistan had limited-to-no technology in classrooms. The need of technology was acknowledged for the first time in the education policy document of 2009. Hence, the first type of data is from the documents of two educational policies of Pakistan.

The focus of this research is to look at higher education institutes, universities, and HE colleges. To justify the context of this research, it was important to understand that the full education policy documents were not relevant to this research. Both policy documents are distributed in different sections, which deal with different levels of education like primary, secondary, higher education, teachers' education, etc. For the purpose of this research, the sections of the policy document which specifically dealt with higher education institutes including colleges and universities, were used as the data sample. In addition, the data from these sections was only utilised where it explored or described technology in education. To reiterate, this research is on technology integration in higher education thus to answer RQs of this research other parts of these policy documents were considered unnecessary. Therefore, the whole sections of higher education were not utilised but only the parts dealing with technology were included.

4.3.2.2. Interview Data:

Language: While conducting research, the selection of the language to conduct the interviews is not the first thought in the researcher's mind, even when the sample and context both are from a non-native country. However effortless the selection of language may seem, there are always some factors involved. Research conducted by Welch and Piekkari (2006) on language boundaries in qualitative interviewing discuss in length the use of language in different qualitative scenarios; their study explores the use of foreign language versus the use of native language in a said context. They believe that "the choice of language may simply appear natural to the researcher in a given context, and in other cases, researchers did not view language as a distinct part of the interview process" (p 424). Although Andrew (1995) argues that the use of local language may open doors and establish trust, but when not using local language concerns were raised by researchers relating to data accuracy, and authenticity of responses; nevertheless "the effects of foreign language use can be difficult to pinpoint" (Welch &

Piekkari, 2006, p 426) in different contexts. While some researchers believe that not using interviewees' language may bring outsider advantage such as diversity of perspective (Andrew, 1995), the conclusion of Welch and Piekkari's (2006, p 433) study affirm that "the researcher is faced with multiple decision points at different stages of an interview project which have implications for the accuracy and authenticity of data". Hence, it boils down to the decision of the interviewer to access the nature and need of the project and decide accordingly.

The decision of my research to use English for interviews had some reasons behind it. The first thing was I as an interviewer was comfortable with the use of English because my research questions used some terminologies which had no translation in the native language, i.e., Pushto. Secondly, I myself do not understand the language Pashto completely, and using an interpreter would be a potential threat to validity at various times in the process (Kapborg & Berterö, 2002) as some points could be lost in translation and interpretation. Nevertheless, I would have still considered the native language if the interviewees had requested, but not one of the interviewees even asked for or showed amazement at the use of English, which brings me to the last reason, because they are all working in HEIs in Pakistan. The official languages of Pakistan, as previously mentioned, are both English and Urdu; nevertheless, English is used mostly in educational settings. Hence, English was used as the language to conduct interviews in this research.

Sampling: The sample was a combination of teachers, course directors, administrative staff and heads of departments; 4 teachers, 3 heads, 2 course directors and 2 administrators of technology were interviewed. To be candid on the number of samples, more people were invited; however, unfortunately the data was collected at the peak of Covid-19 pandemic, a lot of people were working from home and struggling with personal issues. So, these were the only people who accepted the invitation and agreed to take part in my research. The details of the participants are discussed later.

It is interesting to understand how CDA informed the interview process: although initially it was considered that only heads of the institutes, administrative staff, and course directors would be included to answer this question; however, after the interviews with them there was still some need for teachers'

perspectives to understand the phenomenon completely. Hence, four teachers who integrate technology in their classroom were also included in the study.

4.3.3. Sampling

The Peshawar region in KPK Pakistan has 13 universities - government, private and autonomous altogether. Around 24 affiliated colleges and institutes are affiliated with these universities. It is important to understand that all of these do not have ICT facilities. As this research was on technology integration and implementation, only those institutes could be included in the research which had technology in some form; hence, the choice was not too many. In addition to this limitation, people were hesitant to take part in the research. Nevertheless, for the sake of this research, different colleges, institutes and universities were contacted, but only 11 participants agreed to take part. Only 3 invitations did not meet an answer; the rest were accepted. The table below depicts the contexts of the samples:

Type of institute	Government University/ Institutes	Private University/ Institutes	Autonomous University/ Institutes
Number of institutes in the category	3	4	4
Pseudo names of participants	Ali Nasir Abdullah	Amina Asad Husna Zainab	Ibrahim Hamza Shahzeb Ezaz

Table 4.1: Sample details

Participants: The sample for this research was categorised in three groups: government, private and autonomous institutions. The three heads of institution working in the capacity of principal and head of

department were Amina, Husna, Zainab. The two participants who work as course directors were Ali and Nasir. The two participants from administration were Shahzeb and Ibrahim; however, Dr. Ibrahim also worked as co-course director. And finally, the four teacher participants were Ezaz, Asad, Hamza, and Abdullah.

4.3.4. Ethical approval

This section provides the details of procedure of the ethical approval. It is to be made clear here that there were two types of data involved in this research: the interview data and the education policy data from Education policy 2009, and 2017. For the first type of data the details of procedural considerations are given below. And for the second type of data, from the education policies, these are formal document published and distributed by the Government of Pakistan. These are available for public records on Government website and most universities website. These are public properties and there are no restrictions on them on any sort for to be analysed in any way. Hence, this data did not required any ethical approval.

Therefore, ethical considerations for the interview were the main aim of the ethical approval. For the ethical approval of the interview data, this research followed the Lancaster University Faculty of Arts and Social Sciences ethical procedures. Once the approval was accepted and granted, the guidelines of the Lancaster were strictly observed. The two considerations of the interview data were firstly, securing the consent from the participants, and secondly, to ensure the confidentiality and anonymity of the interviewees.

According to the guidelines of Lancaster University ethical approval, the participants were provided the brief information about the research through emails, in written form. Once agreed the participation, they were given Participants Information Sheet (PIS) and interviews were scheduled. The sample for interview were all adults, hence ethical approval was collected without any hindrance. The participants were informed about the structure of the interviews and specifically that all the interviews were recorded but their anonymity will to be ensured. Although, all the interviewees agreed to be named in person as well as their respective institutes; however, following the Lancaster University guidelines, and to avoid

any political or institutional backlash, only pseudo-names are used in the data, and institutes are categorised as government, private and autonomous, without naming any.

It is important to mention some details which increased the reflexivity of this research. The interviews were open ended questions, the topic for me was very intriguing and the context of the research is from where my background is from. Hence, before the interviews, I had to decide on the nature of interruptions I allowed myself in the form of follow-up questions, and rather not to spoon feed the answers to the interviewees, I decided to limit the follow up questions before-hand and kept the same frequency with all the participants. Although, at times it was difficult to not to relate, agree or disagree, but I kept my neutral position for the authenticity of the collected data.

4.3.5. Data Analysis

The data analysis was not a linear process. When the data were collected, all the interviews were transcribed and saved on the University server which took about two months. Initially, I started to use NVivo, the qualitative data analysis computer software available from the University. It was helpful, yet I personally did not find it appealing and stopped using it all together, discarding the work I did with it. To me it NVivo seemed more suitable for corpus-based studies rather than discourse analysis. Then, I printed the transcripts and did the analysis manually. I went over the data many times, keeping the RQs at the fore and soon patterns began to form which led to the theme development. It is to be made clear here that this study aimed to find answers for the following research questions and sub-questions

RQ1. What does textual analysis of Pakistan's NEP inform us about ICTs in education?

   a. What does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in theory?

   b. What are the determinants involved in the process of policy implementation?

RQ2. What does the interviews of stakeholders at institutional level reveal in connection to Pakistan's NEP for the ICTs integration in Pakistan's education system?

a. How does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in practice?

b. What facilities are in place for this implementation?

However, the two question have separate genres of discourse in this study. The first question was addressed through analysis of the written discourse from the two policies, i.e., NEP of Pakistan 2009, and of 2017. The second question was addressed through the analysis of the interview data. Therefore, the first question was to be answered from the analysis of education policy documents from 2009 and 2017, while second question was from the interview data. Thus, keeping the first question in mind I worked to analyse the education policy documents, and second question I started to group the themes together to make interview data ready for analysis. I will now briefly discuss the process of refining my possibilities into themes for the sake of their validity and reliability.

This step involved examining various elements of the data like words, sentences, paragraphs, and overall structure to relate them to attributes, themes, and patterns relevant to the research question. Maxwell (2012), believes that before the analysis is done, the data is organised in broader themes; it starts with the "identification of units of data that seem important and meaningful". For my research, meaningful segments started to emerge when I read and re-read the interview transcripts. Maxwell (2012, p 138) describes two kinds of coding done for creating themes, it "can be based on your prior ideas of what is important, or on an inductive attempt to capture new insights."

Looking at these two types, I knew that my coding and theme creation is based on the prior knowledge of what is important for me to answer the over-arching research question. Hence, the coding was done in accordance with the interview questions. Nevertheless, it still wasn't as simple as I wanted it to be. As the process was manual, it took me several days at a time to cover on data set, and then to move on to the next. Initially, I started highlighting the words or sentences which relate together with same colours, keeping the RQs in mind. Then, these groups were again analysed to see the overlapping themes or any patterns which has been over-looked at the time of first coding.

For answering RQ1 at the textual analysis four categories vocabulary, grammar, cohesion, and text structure were examined. These explored the features like semantics, vocabulary, modality, voice, and frequency. These helped in understanding properties of the text (Fairclough, 1999). The meso level described themes with discourse practices of the text production, distribution and consumption for the RQ1. In addition, to answer the RQ2 specifics of provision, use, awareness, and resistance towards ICT policies were highlighted through meso level analysis. The framework from Vinnet and Pont's (2017) inspired the process of meso level analysis for RQ1, while themes were generated for RQ2 from interview data. Initially, I came up with seven themes in total. The three themes which were submerged were, motivation for ICTs, institutional attitudes, and policy requirement from government. For the first, motivation is a very heavy word in literature and loaded with connotations, hence it was modified and submerged in second theme of 'technology shaping the classrooms.' The second of institutional attitudes presented negative overtones when linked with the data, hence that was submerged in 'awareness and applicability.' The last theme which was relating to understanding the interviews version of considering government's policies as unnecessary was submerged into institutional resistance towards policies.

Thus, this brought me to four broad themes:

1. provision of technology and technological tools in the classroom,
2. use of technology in class and technology shaping the teaching learning process,
3. awareness, applicability, and implementation of government ICTs policy, and
4. institutional resistance: inequalities, bias, and hegemonies.

Hence, the CDA was conducted by attempting to answer the research questions through these four codes to obtain the findings of this research. The CDA, as discussed, has three levels, micro, meso, and macro, through which the data were analysed, but in this study the interview data were analysed only at meso and macro levels. The decision not to conduct micro level analysis on the interview data is provided in chapter 5, but in brief, the micro level analysis in this research deals with linguistics of the discourse, and as interviews are spontaneous speech with no pre-meditated sentence patterns, it was considered to

be of no actual relevance to this research. The details of its working and the actual analysis are presented in chapter5.

4.4. Conclusion

To conclude, this chapter provided a map for how this whole research was conducted, with appropriate detail. As said previously, it was not a linear process at all, as there were surprises at every corner. Nevertheless, this chapter helps to explain the whole research with more ease and makes much more sense as an overall pattern. In conclusion, this qualitative research used Critical Discourse Analysis as proposed by Fairclough (2001) and analysed the two types of data, policy documents at three levels and interview data at two levels and brings forth the contextual realities of education policy implementation in Pakistan.

Chapter 5: CDA of Education Policies 2009, and 2017

5.1. Introduction

This chapter analyses the two NEP documents published by the Government of Pakistan by using Critical Discourse Analysis (CDA) as proposed by Norman Fairclough (2001). The chapter discusses the three levels of CDA, the micro, the meso and the macro in detail and then provides the details of analysis using these three levels. The themes which surface at the micro level are the use of suggestive style of writing, the theme of change, and the Knowledge-Based Economy (KBE). The KBE has been discussed in detail in Chapter 2 'Literature Review' with its neo-liberal criticism; however, in this chapter, KBE is presented for how it effects this research set in Pakistani context. The meso level is blended in this analysis as it roots from micro and stems to macro. Hence, its elements were presented at both micro and macro levels for seamless, smooth transition of the analysis (Dahl et al., 2014). The macro level analysis was carried out using relevant components from Viennet and Pont's (2017) four-dimensional framework: the two components used were the policy design and the stakeholders. The chapter ends with the concluding remarks about how the policy analysis is but just the half picture, and to complete the frame, the next chapter will analyse the interview data.

5.2. The Analysis

The following review is of both the 2009 and 2017 NEPs, together. As mentioned earlier, the micro level analysis requires the support of the meso level, to be fully understood; hence, these both are discussed together. However, to understand the micro-textual analysis, first we need to identify the genre at meso level, because the genre recognises the themes and highlights these for the macro analysis, which is presented afterwards.

5.2.1. Micro and Meso Analysis:

The rhetoric of the *knowledge-based economy* serves as the genre of both the policy documents. The NEP of 2009 (p 55) "dreams (for) a knowledge-based economy", while NEP 2017 (p 76) wishes for the knowledge base to "open new avenues for exploration, as well as occupation specific skills and competencies for enabling the graduates to enter the job market for employment or entrepreneurship." Harris (2001, p 21-22) states that knowledge-based economy is "the most important determinant of growth in living standards and new job creation", which originated from the recessions of the 1980s and stems technology, i.e., computers and potential of new information technologies. Cooke and Leydesdorff (2006) distinguish between the knowledge economy and knowledge-based economy, the first originating in the 1950s focusing on composition of the labour force while the latter added the technological trajectories. In simpler terms, the knowledge-based economy is the "notion that economic wealth is created through the creation, production, distribution and consumption of knowledge and knowledge-based products (Harris, 2001, p 22)." These products are based on the research and the notion of knowledge to argue, decide, and produce new ways with economic potential just as the policies state that the Government wants to ensure that it produce "specific skills and competencies for enabling the graduates to enter the job market" (NEP 2017, p 76). According to Harris (ibid) there are two kinds of knowledge-based economy; *weightless economy* which notes the economic boom of non-material objects, and the *information economy* which highlight the role of ICTs in the modern economy through any medium, i.e., politics, education, farming, etc. It is important to understand that both the NEPs included in this research seem to interpret the use of knowledge-based economy under the perception of *information economy.* Toffler (1990) believes that the most important economic development is the shift from 'muscle to mind' and George (2006) believes that this knowledge-based economy lays greater emphasis than ever before on higher education. She suggests that "both developed and developing nations, higher education was believed to be the key to the continuing growth of national economies" (p 590). She insists that the investment in the knowledge-based economy includes areas that generate knowledge like research and education, amongst others. Hence, the above discussion

makes the reason of the genre of knowledge-based economy dominating the policy documents understandable.

In line with the rhetoric of the knowledge-based economy, for the textual analysis we examine the features like semantics, vocabulary, modality, voice, etc. These are the first indicators that suggest what kind of a text it is. The use of grammatical structures provides an insight into the mind of the writer and the reason for the text. This textual analysis was also related to the meso-level discursive phase of production in which the elements related to production of text which form the genre are analysed. Although for this research we understand that an education policy document will be detailing the education of the country, the above-mentioned elements determine the assertiveness of any kind. These unspoken characteristics of the discourse reveal the position of the producer, i.e., the Government, regarding what is assumed to be achievable with it. It is understandable that analysis of this sort may be more beneficial in linguistic and language-related fields; however, in the present research, the textual analysis serves the purpose of an aid; the text will represent the discursive forces and will help in mediating the discursive and social analysis (Taylor, 2004).

The texts are written in a *suggestive style*. To understand what it means, Apthorpe (1997) deems policy writing to be its own genre. He calls it styles of expression and believes that the aim of policy language is to persuade or suggest. In the texts, the model verbs indicate the strength of the discourse; confident speech patterns of an active nature indicate the power of its intention. Uzuner-Smith and Englander (2015, p 73) suggest that the assertion from modalities "allow the readers to imagine alternate scenarios for what the research does and what academic production is," creating doubts in the veracity of the content outcome. The use of modality can be at three levels: high, medium and low. These three levels specify different levels of commitment, the higher the modality the more powerful the notion. The texts from the two NEPs contained these modalities at all three levels, but the frequency of their use show the conviction of plans. The lowest level of modality is in the smallest number. It is used only three times in NEP 2009 and 17 times in NEP 2017. At the lowest level, the words used are *can, may,* and *sometimes* in the data*;* these words indicate that the tone of the text is nothing but merely encouragement, praise or reassurance. The choice of following the ideas presented or rejecting them

will not make a difference to the context. This use shows the policy is just making them aware of the facts and from these facts whatever the reader decides will not have any consequential effect on the contextual reality.

The highest ***modality*** is used quite frequently, more so in NEP 2009 than in NEP 2017, i.e., 27 and 19 times respectively. These are the words which show absolute necessity and complete obligation and it is clear that these are used to convince the reader by completely eliminating uncertainty with the choice of words (Taylor, 2004). These portray the intensity of the situation and full commitment. The common words showing high modality are *must, will* and *have to.* Some examples from the texts are:

Seventy two new public universities will be established…. among these will be science and technology University ….

ICT must be effectively leveraged to deliver high quality teaching and research support in higher education…

The high intensity modal verbs appear incontestable and authoritative, assertive for the reader to accept without any question (Uzuner-Smith & Englander, 2015). They are stressing on the development for the future, following the rhetoric of the knowledge-based economy, the future directive is to grow and evolve. The indication is towards the trajectory of growth and expansion by investing and delivering knowledge.

However, the texts of both the NEPs do not include examples of any definitive use of the model verb *would*. The use of *would* normally indicates what could potentially happen in the future, so this shows that the tone is not promising, commanding or making sure that the policy is in any way implemented, but suggestive in nature.

The most frequently used type of modality is the medium one. The repeated use of auxiliary verbs *shall* and *should.* It presents the tone of the policy to be merely as recommendation; presenting a choice to the institutes and leaving it on their will whether to follow or decide against it. However, there are different ways these have been utilised; the proposition for future changes is through the use of *shall*, which exemplifies the willingness of the Government to try to make changes to move forward and

embrace the future. The Government's recommendation of urgent change in the educational situation is portrayed by the sense of urgency in the use of *should*. It demands a response through expressing obligation *should* (Taylor, 2004), for example,

Technology and industrial parks shall be established...

Technology embedded distance education opportunities shall be increased…

Universities of technology should be established to produce technologists required by industry.

This *sense of urgency* through obligation and necessity are perhaps a response to lack of confidence in public education (Taylor & Henry, 2003) presented in the *Foreword* chapter of every NEP of Pakistan, which is discussed in detail later. However, the analysis here shows that this modality depicts the willingness to benefit from future and looking towards the future for success with investment in KBE.

Looking at the use of grammar in terms of tenses, in traditional grammar, the present tense is always used to convey facts, general statements of truth, customs, periodical happening of events, etc. In CDA, the present tense carries additional meaning, "it conveys a *timeless, ahistorical present* that serves to negate any relationship to the past" (Fairclough, 2001, p 131). The effect is to make the assertion that is presented in the present tense "seem as though it were true for all time" (Uzuner-Smith & Englander, 2015, p 73). In addition, the use of the future tense is really common in policy texts as it can serve the purpose of prediction, planning, decision or desire. Hence, the use of both present and future tense in the same sentence evidently has another aim; they show the structure of the text to be that of moving from a problem towards its possible solution. The texts have many examples of the tense moving from present to the future, which, as referred by Edwards and Nicoll (2001) is a quality of a *persuasive text* from the Government's (suggestive) solution to the problems in education; rather than being dialogical, they discuss; the texts present declarative statements in the present tense and assertions for the future.

It is necessary to focus on implementation excellence, which will require adoption of modern project management…

There is a strong sense of the *theme of change*. The theme begins from the past, extends to the present and stretches towards the optimistic future. It is quite interesting to note that when the future directives are hoped for, the modality level used is high; nevertheless, the absence of recipient makes it impossible to be taken as more than a mere suggestion.

Looking at the theme of change, the policy extracts indicate two types of change; one is in terms of *social transformation, and political enlightenment, delivery of high-quality programmes, develop(ing) quality, launching knowledge exchange programme,* etc. The agency of change in these explicates the desire of the Government to focus on the change of the system, projecting the knowledge-based economy and its trajectories.

The other change acts symbolically and metaphorically in policy texts as 'condensation symbols' (Troyna, 1994, as cited in Taylor, 2004). Taylor (2004) refers to these as the examples of new hybrid terms. These change from a traditional model of education to that of a new hybrid model; *technology embedded distance education, Science and technology parks to connect academia with policy planners.* The use of these terms indicates the Government of Pakistan's goal of strategic integration of ICT for quality opportunities in the education system (NEP, 2017).

Another element of the rhetoric of the knowledge-based economy is to be present without the presence of a *social agent* (Fairclough, 2001), a common feature of policy documents reported in different research (Al-Ghazali, 2007; Taylor, 2004; Yeatman and Bureaucrats, 1990) is the unidentified sources of responsibility, power and authority. It is not clear who is considered accountable for making the changes. Al-Ghazali (2007, p 7) believes that this "retreat (of the writer) into individual invisibility is probably in order to make his authority more impersonal, and thus more difficult to question." To relate it to this research, acknowledging the fact that this is a government issued policy, the absence to identify the concerned department makes it tricky to enquire straightforwardly. Although Taylor (2004, p 10) trusts that "criticism of current teachers and the system is implied, given the assertion that there is an urgent need for improvement, and at point(s) is the government's responsibility clearly stated", the situation and instructions are quite vague. For example, the policy indicates that the main agent is the Government which is responsible every step of the way; however, that is the only clear part; which

universities is the Government working in partnership with for which programmes, as for sure not all the universities lead in the same direction? What are the criteria for different scenarios? Who will develop, deliver and in what time frames? Vague directives are stated without responsible social-agents (Fairclough, 2001) - the policy makers. The non-human agency is with the Government, but the co-relation of it with human partners is not clear, whether the policy is referring to human stakeholders as teachers, students, or parents.

The textual analysis of the policy documents 2009, and 2017, revealed a *device* of reiteration or repetition. This device is used to put focus on meaning through lexical items. For analysing a text, Fairclough (2001) gives lots of consideration to the ideologically significant meaning-relations, which can be through reiteration. One of the features of policy documents is to echo some particular things and according to Winter (2001, cited in Al-Ghazali, 2007, p 10) "reiteration is the repetition of certain lexical items used either for the confirmation of the discussed idea, or because they relate to the same lexical set of the discussed topic". He believes that it can be carried out in two ways; explicitly by using the identical item in many sentences, or implicitly by using synonymy, near-synonymy or antonymy of the original items. Hence, it can be for the prominence to the issues which is the case in this study as the analysis reveals that in the policy documents some common reiterations within the texts were *develop, support, enhance/enhancing, quality, research,* and *knowledge.* These evidently show the future directive nature of the policy heading towards economic growth and prosperity.

Examining the organisational structures of both policy texts, we can see the use of bullet points and numbered lists. Fairclough (2001) suggests that policy documents quite often use (bullet and numbered) points. According to him, perhaps the intention is to make the policy texts more user-friendly; nevertheless, they tend to be reader directive as well. The chapter on higher education in NEP 2009 is shorter compared to the chapter in NEP 2017, and there is a brief account of *Policy Action,* in just thirty points and presented in a numbered list. Here, it is to be made clear that although they are thirty points, they are mostly short, with no details and only vague explanation. Looking at NEP 2017, the text is more comprehensive than its predecessor, although still vague in explanation of the agency, but the *Policy Actions* are thorough. The chapter uses bullet points and numbered lists and gives accounts of

Challenges of Higher Education in Pakistan, and *Objectives,* with brief details. However, the list of *Policy Action* consists of forty-eight, numbered points, which themselves are quite long; some are like small paragraphs in themselves. Looking at the presentation of the *Policy Action,* we can see the numbered points are divided into sections with these headings; *Expending, Equitable access; Improving quality and Ratings; Faculty development; Promoting innovative research; Strengthening Linkages with industry; Financing of Higher Education.* To understand the difference between both NEPs we need to look at an example:

Tenure Track system of appointment of faculty members will be institutionalised. (2009)

Tenure Track system shall be expanded, additional resources budgeted, and stronger M&E system will be established to ensure strict compliance. (2017)

It is easier to understand the latter as a clear agenda is presented by stating it under the heading of *Faulty Development,* through the details of its execution.

The texts indicate the use of transitivity, another important textual feature; however, it is not used in relation to the use of ICT or technology, hence it is not discussed in this research.

5.2.2. Macro Analysis

To do macro level analysis, we need to understand that as Dahl et al. (2014) proposed, it is better to build up from meso and relate to macro in a way that the whole texture of CDA becomes seamless. In addition, as Li and Wu (2019, p 435) suggest, "The main principle of CDA is that discourse is a social action", thus social action in policy discourse is examined in a meso-macro analysis to come up with the elements of education policy which can transition into an implementation document. Viennet and Pont (2017) proposed a four-dimensional framework which supports the effective implementation of education policy documents. In this research, this framework is adapted to do the meso-macro analysis of the two education policy texts. However, it is to be made clear that only two of the four dimensions, i.e., the policy design and the stakeholders, were found to be relevant to this research, and hence used in the research (see Figure 2).

Determinants of education policy implemenation	The policy design	Policy justification
		Goals and Targets
		Feasibility
	The stakeholders	Identification
		Capacity & motivation
		Response

Figure 5.1 Derived from Viennet and Pont, 2017

Design of the policy:

Viennet and Pont (2017) identify the design of the policy as a theoretical solution to answer an issue on the policy agenda. The design is not examined in isolation, but several factors are linked to the policy itself. These factors determine the fate of the policy when it comes to implementation. It is crucial for a policy design to detail the problems faced previously and offer the solutions in a feasible and implementable way. Looking at the policy document of 2009, it is evident that the policy states the challenges its predecessors have faced in terms of ICT. However, they are quite brief and unclear on the details. The policy does provide a response to the challenges faced previously but as given in textual analysis, it fails to point to those responsible for finding the solution. It simply proposes that some actions are required in the future without the determination of *how*. This relates to the suggestive style of policy writing discussed previously; the policy genre is persuasive, nevertheless mere guidelines. This is discussed in detail in 'Findings' later in chapter 6. On the other hand, the design of education policy of 2017 is easily understandable in a number of ways. Firstly, the information is put together and labelled by headings. Secondly, text is highlighted to give emphasis to the important parts by underlining, using italics and using bullet points. Challenges, goals, target and policy provisions are discussed here more than in its predecessors. Nevertheless, this policy fails as well to identify the responsible agency. The policy pitches the suggestions like throwing arrows out in the open without the aim. This seems like a common pattern in both the policies, which is discussed in a later chapter.

a) Policy justification: There are several reasons why a policy is framed. Viennet and Pont (2017) propose that a policy is better implemented if the reasons of its formulation are justified; a policy brought forward just because of approaching elections or a coalition pushing through the agenda makes no sense for its implementation. However, a policy formulated as a result of comprehensive analysis of the education sector with factoring the social-economic, cultural, demographic and political context changes the weight of the policy towards its implementation (Haddad & Demsky, 1995). It is not difficult to understand why a policy based on a political agenda will be neglected versus a policy based on real facts and needs will be quickly implemented. Nevertheless, this particular aspect requires actual research within institutes as well as at national level, to get concrete recommendations. In the context of Pakistan, the research found that actual research within the departments and institutes is scarce. However, the government is putting stress on research to be done systematically (NEP, 2017).

The NEP 2009 accepts the importance of ICT in education and as discussed above, vaguely suggests that it should be implemented. The future directive of ICT skills is associated with enhanced efficiency of teaching in higher education, and qualified faculty. As previously presented, the model verbs are used to stress the justification of providing ICT in higher education; providing access to technical resources, facilitating scholarly communication regarding ICT, both on campus and distance education supported with ICT, and using ICT to deliver high quality teaching and research.

The need for integration of ICTs in teaching learning is highly appreciated in NEP 2017. The shift of ICTs integration from vague in NEP 2009 to improved articulation in NEP 2017 is the justification for actual steps towards integration. In NEP 2017, integrating the ICTs in the education policy document was persuasively presented by stating different facts; its importance and significance, a situational analysis, need for a policy intervention, and targets and goats. The mood of moving towards technology is recurrent in the NEP 2017 (p 92):

> ‘Pakistan is bound for making the necessary changes in education policies and focusing efforts on using/integrating ICTs for quality lifelong learning opportunities for all, in all settings and at all levels of education. ICTs must be harnessed to strengthen education

systems, knowledge dissemination, information access, quality and effective learning, and more effective service provision.'

Hence, the policy is acknowledging the ICTs as the need of time and reminding the reader that move towards them is inevitable.

b) Goal and targets: Before we go into the details of goals and targets, we need to understand what they mean and how they translate into this research. A general understanding of a goal is an objective or an accomplishment which needs to be achieved. On the other hand, a target determines the success. The aim of having a goal and a target is normally the same, to be successful, but the execution differs; for example, the goal of education policy is to achieve the target of ICT integration in higher education. Hence, a goal is a specific challenge, and a target determines its success. Ingram and Schneider (1990) believe that the clarity of the goals impacts the operational stage in the implementation. There are two ways that these can influence the implementation; firstly, how they are interpreted, and secondly, how they are implemented. Both these factors are connected, as interpretation will lead to the implementation, thus the understanding of these goals and targets in their essence is crucial for their correct implementation. Viennet and Pont (2017, p 29) propose that policy goals and targets must be clear and concrete, so they do not create unexpected attitudes, challenges of implementation, and confusion amongst the targeted audience: "concrete goals, and targets of an education policy are crucial to understand the challenges to implement, the shape the process takes and the results from implementation".

The NEP 2009 sets the goal for opportunities of collaboration for enhanced research, continuous professional development which includes ICT education for teachers, and universities to produce technologists required by the education sector for the efficient integration of ICT. The policy presents targets for the investment in higher education to be raised 20% in the education budget, along with enhancement of the total education budget to 7% of GDP (gross domestic product) and allocation to the ICT integration (not mentioned in terms of numbers). It is interesting to note that although the goals have been set, the clarity regarding the execution was missing. Perhaps this was one of the reasons that

these goals and targets were not completely achieved by this policy. In addition, the NEP 2017 (p 91) provides the goals and targets as:

> '(to) make integration of ICTs in education an integral part along with a shift from memorization paradigm to modern method of learning by exploring, experimenting and innovation. This can be accomplished by re-establishing our lost connections with IT giants such as for example but not limited to Microsoft, Intel, Open Sources and Linux.'

The policy then provides the reason as, "the aim is to utilize their curricula for the worldwide recognized educational programs thus empowering with employable certification of IT skills and knowledge." The Pakistan's education system still relies heavily on the word-to-word reproduction of the memorised curricula, and this is the method effective at all levels of education, from schools to colleges and universities. The more a student is good in memorisation and replicating exactly from their memory, the more they are awarded marks in exams, thus making them top of their class and being considered a *brilliant* student. This obviously makes more opportunities available to them. However, the Government of Pakistan has accepted the reality that this method is not the right way to judge students' abilities and learning. Thus, the NEP 2017 attempts to move from the culture of memorisation and cramming to *learn by doing* and wants to bring in the ICTs to assist the practice, and in the process provide knowledge and skills.

The policy also details objectives which "will be to focus on but not limited to the following areas of concerns at each level of education:

To higher education institutes.

i. To enable students to acquire employable ICT skills;

ii. To make available to Pakistani students, the ICT courses developed by global IT corporations with their collaboration (Microsoft's Education, Mozilla Corps);

iii. To equip institutes with required ICT facilities.

To teachers Education: To prepare teachers for their new role in teaching with ICT,

i. Engage students in meaningful and relevant learning;

ii. Integrate ICT into the curriculum & devise alternative ways of assessing student work;

iii. Allow students to construct knowledge;

iv. Adapt to a variety of student learning styles to cater for individual learning differences;

v. Continuously expand and welcome further opportunities for teacher learning. Introducing ICT in schools imply that we need to prepare teachers to facilitate the process in that all teachers need to emphasize content and pedagogy not the level of sophistication with hardware and technical skills" (NEP, 2017, p 91).

Given the context of this research, it is very important to understand that Pakistan, as previously stated, has been struggling economically since its conception. The goals of the NEP 2017, seem achievable for a developed country education system with very little efforts; however, these goals are not realistic for a developing country such as Pakistan. For example, increase in the financial resources is one of the recommendations for making necessary changes for successful ICTs integration (NEP 2017, p 92), however, the country struggles with enormous foreign debt and the Government tends to do budget cuts as and when required, to overcome financial constraints (Bengali, 1999) so increasing it is not feasible for current circumstances. Farid et al. (2015) suggests that the provision of ICT facilities equally across the educational horizon may not yet be achievable; the budget is limited for these provisions, the institute differs immensely in facilities as well as qualified faculty, and the motivation towards its integration are not the same, which is discussed in a later chapter.

c) Feasibility: A practical approach of educational policy towards technology integration paves its way to its implementation. To be realistic and approachable in terms of resources and provisions is a requirement to make the policy work. "Several elements of the policy initially developed by decision makers determine the implementation process to some extent; the origin and rationale of a policy, and the extent to which decision makers take into account the practicalities of implementation all affect whether and how a policy gets implemented" (Viennet & Pont, 2017, p 30).

The aims and objectives of ICT integration stated in NEP 2009 and 2017 both, as previously discussed, for a developing country like Pakistan, seems unviable. There are elements which indicate that neither

of the policies was formulated keeping the constraints of the context in mind: financial problems being the biggest in terms of budgets for universities and students to join these expensive courses; electricity shortage with no alternative arrangement; untrained faculty for ICT integration; and lack of motivation and reward for its integration (ibid). To consider the discussion in chapter 2 'Literature review' on the implementation strategies of other developing countries, we relate to the struggles they have faced in ICTs implementation. The barriers reported in those studies are the same as the ones found in Pakistani context. The chapter 6 'Findings' discusses this in more depth.

The Stakeholders

The education policies are formulated for some specific groups. They are not for the general public to follow and adhere to, but only for the people involved in the education sector. These people or groups are identified as *stakeholders* or *actors*. The implementation of the policy is done by these stakeholders or actors according to their interpretation, requirements, and skills. To get better integration of ICT, while formulating the education policies, it is crucial to acknowledge the contribution of these stakeholders for the implementation process, which may produce more effective results. There are several factors connected to stakeholders in the education policies.

a) Identification: Identifying the needs of the stakeholders may prove to be beneficial for the formulation of an education policy. "Identifying and investigating the views, interests and capacities of actors is necessary to understand education policy implementation, for their perception of education, their motivation and skills, and their reaction to the policy widely influence the enactment of the policy" (ibis, p 32). Hence, to identify and understand the skills, motivation, etc., research is essential. Taking into account all the factors, research is required at different levels; it can be to identify the capabilities of faculty for ICT training, it may be from the students examining their capabilities, or at institute level to examine the motivation and perceptions. When it comes to research there are so many venues which need to be explored and accounted for in this implementation. However, it is important to mention that doing research with preconceived notions, for example, that all young faculty are 'tech savvy' or mature faculty cannot use technology very well, will be in vain. Hence, to paint a true picture, the identification needs to be authentic. Therefore, believing that "the integration of ICT will enhance the efficiency of

teaching in higher education" (NEP, 2009) is overlooking the rule of identification. It would be more advantageous to put the theory to test through research and actual contextual identification.

In recognising the key actors in the integration of ICT, the policy accepts them to be central for the implementation. The main three stakeholders in NEP 2017 appear to be students, teachers, and universities. "Preparing students for digital world and equipping them with employable IT skills" (ibid, p 88) is the identified need of students while, "strengthening teaching quality by introducing ICT in teachers training institutions, promoting innovative research, and rewards for research publications" (p 84) is for teachers. However, NEP 2017 (p 82), gives a bigger account of identifying the needs of universities as a stakeholder; it involves supporting the universities through financial aid, strengthening technological collaboration national and international, both with research grants, and establishing new technology integrated universities. The policy provides details of strategies on "how to overcome the current challenges universities are facing for ICT integration and relate to the needs of 21st century" (ibid, p 92) to develop complementary approaches to ICT in education and successful programmes.

b) Capacity and motivation: The aspect of capacity and motivation are quite linked; the capacity may be influenced by the motivation or vice versa. The capacity may be different for different actors; for example, the capacity of a technology teacher in ICT integration is evidently more than a language teacher (Hussain & Sajid, 2015); however, the motivation of a language teacher to learn and integrate technology in the classroom might be more than a technology teacher who might be tired of using technology all the time. Malen (2006) suggests that actors' resources may be a major element for its capacity and motivation. He also stresses that these factors may have political influence, e.g., it has been a trend in Pakistan for Prime Ministers and Presidents to approve universities which have adopted their ancestral names, so when it comes to budget allocations these institutes are favoured beyond others (ibid). Hence, they have up-to-date technology, highly qualified facility, and excellent remuneration packages to motivate the staff. And due to lack of accountability, these universities take a large cut of an already constrained education budget, leaving very little for other institutions to grow (ibid). This affects the capacity of institutions and the motivation of the faculty, becoming the one of the causes of limited new research and technological advances. In terms of this study, the interview data address this

issue more clearly; the stakeholders included in the study from autonomous institutes expressed positive response to the issues of capacity and enhanced motivation due to higher budget allocations from Government and in addition, the institutions generating their own finances, which create a more financially sound and economically easier atmosphere. The discussion is later to follow in chapter 6.

Both the policies of 2009, and 2017 state that new technological equipment will be made available to the universities, upgrading the faculties through ICT skills, and new universities will be formed to promote technologies in Pakistan. Nevertheless, there is no evidence from any research on predecessor policy that this has been done as planned. It is very disappointing to see that the NEP of 2017 repeats what has been stated in NEP 2009, displaying unsuccessful policy goals. It acknowledges this:

> 'Quality of higher education is not compatible with international standards… most of the universities lack a culture of (technological) research… budgetary allocations for higher education are not proportionate to the needs of the country… Due attention is not paid on research and development. Linkages between universities and industries are weak (NEP, 2017, p 80).'

To achieve better technological and professional education, the Government has proposed three visions in the 2000s: Vision 2015, Vision 2025 and Action Framework 2030. The aim of the vision of 2015 was to see Pakistan in a better socio-economic state so to address the needs of the time. However, Pakistan vision 2025 was published in 2016 by the government basing it on six pillars, one of which envisaged a significant increase for resources at higher education level to achieve higher technological standing in the world. It also hopes to "provide skilled and innovative workforce for achieving the objectives of developing knowledge economy in accordance with vision 2025" (NEP, 2017, p 81). Under the United Nations General Assembly agenda, Pakistan signed a global declaration to adopt a framework of action titled '2030 agenda for sustainable development and sustainable development goals. One of the aims was "by 2030, ensure equal access for all women and men to affordable and quality technological, vocational and tertiary education including universities" (ibid). It seems that the Government is trying to get as much help as possible to achieve the national goals.

5.3. Conclusion

This chapter presented three levels of the CDA of the NEP 2009, and 2017. Fairclough's framework of CDA helped to identify the macro level issues for the implementation of ICT integration in Pakistan. Given the political, economic, and social background of Pakistan, it was understandable that the policies reflect the knowledge-based economy very strongly. Knowledge deemed as a commodity is expected to improve the economy of the country as well as enhance the value of the ranking of universities at national and international level. It is also interesting to see that the suggestive nature of educational policy texts may not have the outcomes they are required to produce because of their presentation. The way the policies present their argument has not enough influence to produce expected results.

The analysis was only the first step towards understanding implementation of ICT in education. And to get a holistic understanding, in the second part of this research, interviews were conducted and analysed to gain the contextual understanding of the situation, and then details from both are discussed later in chapter 7. Hence, in the next chapter, a CDA of interviews from individuals from different positions in higher education institutes is given, which enriches the argument in the discussion chapter, and supports in producing the implementation document to assist ICT integration in Pakistan.

Chapter 6 : CDA of Interviews.

6.1. Introduction[7]

The previous chapter provided the CDA, as proposed by Fairclough (2001), of the educational policies of Pakistan 2009, and 2017. The CDA was presented at three levels; first was the micro level text analysis which dealt with use of language by exploring its structure, grammatical and semantic features, and linguistic parts which were true to the aims of this research. Second was the meso level discursive analysis which interpreted the data from both the educational policies and identified the genres and discourses for the third level of analysis. And the third was macro level of analysis, explaining and connecting to the sociocultural practices and contextual realities these policy texts originated from.

As noted previously, this study aimed to find answers for the following research questions and sub-questions

RQ1. What does textual analysis of Pakistan's NEP inform us about ICTs in education?

a. What does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in theory?

b. What are the determinants involved in the process of policy implementation?

RQ2. What does the interviews of stakeholders at institutional level reveal in connection to Pakistan's NEP for the ICTs integration in Pakistan's education system?

a. How does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in practice?

b. What facilities are in place for this implementation?

[7] This chapter uses the word 'institute/s' to refer to all colleges, schools and departments in the universities included in this research.

Hence, approaches to data gathering and analysis were all designed to answer the above questions.

In the previous chapter, the CDA of two educational policies of Pakistan, 2009 and 2017, is presented; the analysis provides an understanding of the context and sociocultural practices. However, as a researcher, I believe that policies are only one side of the picture, the official side from Government which comes from a higher position in the hierarchy. As a realist, my understanding is that often the places of authority do not cover all the realities present in a society. There can be a chasm of chaos in between the social norms and Governmental practices, which could be completely neglected if the other half of the story is not told. Therefore, for the sake of this research, these realities were explored by investigating at the ground level and interviewing the people who are responsible for the implementation of these educational policies, which helps in completing the picture to understand the full reality of the implementation of ICT in education in Pakistan.

6.2. The data

As mentioned, two types of data were used to answer the research questions of this thesis: one from educational policies and the other from interviews. The interviews were conducted with 11 different higher education providers including university affiliated colleges, schools, institutes, and departments.

The analysis of the data from the interviews was done through critical discourse analysis, as proposed by Fairclough (2001), in a way which is slightly different from the analysis of the policy documents. For the policy documents, CDA was done at three levels: micro, meso, and macro. The interview data were analysed only at meso and macro level, and micro level linguistics analysis was not conducted. It is to be understood that interview generates spontaneous verbal speech; the speaker at the time of speaking is not particularly concerned about the use of language but the message s/he is trying to convey. It is also very important for this research to understand that English is not the first language of all the interviewees, and it was clear that at times the interviewees were struggling to find the choice of words to convey their message in English; however, the decision for using English for interviews was discussed in chapter ‘Methodology’. This is evident from the transcript of the interviews which shows

the use of lots of pause fillers or interjections like umm, hmm, err, etc. Hence, the use of vocabulary has nothing to convey at micro level analysis in terms of answering the RQs of this research and therefore, the micro level analysis of the language, vocabulary and sentence structure was not done for the interview data.

Exploring the data was initially done manually. The transcriptions of the interviews were read again and again, to code the emerging themes. These themes were then grouped together to answer the two overarching research questions intricately. The data were not straightforward to code. The interviews were initially read with a single purpose in mind; to understand the interviewees' position on the implementation of ICT in Pakistan. This helped the researcher to actually understand the data which was produced through the interviews. The data were then coded and themed; four main categories emerged from the data. They are:

1. provision of technology and technological tools in classroom,
2. use of technology in class and technology shaping the teaching learning process,
3. awareness, applicability, and implementation of government ICTs policy, and
4. institutional resistance: inequalities, bias, and hegemonies

These four themes are discussed individually at meso and macro level analysis. The meso level described these themes with specifics of provision, use, awareness, and resistance to ICT policies. The macro level details the contextual realities, i.e., the why, the how, the where and circumstances regarding ICT.

6.3. Meso and Macro level analysis:

The meso level deals with both textual and discursive elements of the data. The *variations* (Fairclough, 2004) of textual and social elements are understood at this level to make up the genre of the data for

better understanding. The inter-discursive analysis (Taylor, 2004) at this level of the four themes of interview data identifies the genre and discourses working within the text.

6.3.1. Theme 1: Provision of technology and technological tools in classroom

The nature and location of resources facilitate teachers in the use of ICT in classrooms. Research (Kennewell & Beauchamp, 2003; Sie & Priestley, 2005; Unal & Ozturk, 2012; Mirzajani et al., 2016) revealed that the integration of ICT essentially requires provision of adequate technological resources in classrooms. A study by Mirzajani et al. (2016) conducted in Iran aimed at determining the variables of 'teachers' acceptance of ICT and its integration in the classroom.' The study investigated understanding the possible reasons for ICT adoption in classroom lessons, and one of the research questions specifically focused on the technological equipment. The response reported in this study revealed that the supply of educational technological tools and facilities available to teachers, both hardware and software, has a correlation with teachers' utilisation of technology. It also informed that insufficient technological support discourages teachers from using ICT as "teachers did not wish to be confronted with technical problems related to ICT" (p 36). The study concluded that these factors need to be considered for the "teachers to fully exploit the use of ICT to improve teaching-learning process" (p 37). Another research conducted in Iran (Unal & Ozturk, 2012) investigating the barriers of ICT integration in classroom practices reported that the provision of ICT-based equipment creates important opportunities for its integration. The study suggested five main barriers for ICT integration amongst which two were *lack of ICT equipment in classrooms,* and *lack of the ICT-based teaching resources.* The result of this study echoed the previous study mentioned; provision of ICT-related equipment and support to teachers are crucial for ICT integration in classrooms.

From the discussion above, to understand the provision of technology, it is recognised that it implies software and hardware; the software includes Internet, applications (apps), Google Suite, Microsoft suites, learning management systems (LMS), etc. The hardware means desktop and laptop computers, interactive/smart white boards, projectors like smart and laser multimedia projectors, LCD displays and

tablets/smartphones. The turn of the new millennium brought internet to every household, and it is the basis of this technological era. Without a doubt, the ICT integration relies heavily on the availability of internet and its perks, and "the Internet (is used) as the main delivery technology" (Jung, 2005, p 97). Hence, for the purpose of my research it was crucial to select the sample where internet was readily available.

To be perfectly clear, all the institutes included in my research provided internet for the students and teachers. However, there were variations of the internet provision; six of the institutes provided students with good, fast internet, which could be used by students on either laptops or smartphones. As Dr Shahzeb reported, "we have internet in the classroom available for teachers and students alike… er… all the students have access to internet… hmm… we have proper bandwidth to accommodate all the students in the university". This implies that the availability of the internet in these six institutes is as good as any university in the world. It is accessible through wi-fi on campus for all registered students and faculty members, unrestricted in terms of amount of usage. This provision is free for students, "every student login through their own (university) ID" (Nasir). Hence the provision in these institutes is considered excellent in Pakistan's context.

Five of the institutes, however, do not have internet for the students to be used in classroom. Nevertheless, these institutes have computer laboratories, and students are allowed and somewhat encouraged to utilise the facilities in these, which have fast internet, good desktop computers and smart whiteboards. In these institutes, teachers opt to use the computer laboratories as and when required, for integrated lessons, "we use a lot of ICT integrated lessons, we have our own computer labs" (Amina). However, the internet provision does not come naturally to all; this comes with its own set of difficulties. The most common one is the internet connection, "(we face) problems due to the connectivity issues" (Ali); the issues include slower speed, intermitted connection loss, power cuts (electricity load shedding) and log-in complications. In addition to these, every so often the number of students exceeds the number of computers in computer laboratories, which causes disruption in class. Also, issues arise if these laboratories are already in use or booked for another lecture due to scheduling conflicts. These

issues are not new and are somewhat constant in developing countries like Libya, Kenya and Bangladesh as presented in chapter 2.

A contextual analysis at macro level shows that the internet issues have also previously been mentioned in another research conducted in Pakistan. Some issues related to internet provision were mentioned in a study conducted by Farid et al. (2015) on the promotion of e-learning in Pakistan. They informed that accessibility of internet broadband is one of the major hindrances in a developing country like Pakistan; they reported that "slow speed internet, busy internet lines, load of traffic on international lines… makes the web complicated to a greater extent… and dis-connectivity due to technical hitches results in the demotivation of the learners" (p 166), so low-quality internet is a big issue (Zahra et al., 2020). A reliable Wi-Fi and high-speed network connection are a consistent challenge in Pakistan and ICT integration relies on the provision of internet (Gul et al., 2017). Although these problems are a constant in developing countries, there is improvement. As mentioned above, six of the institutes included in my research reported that they have high speed internet available in the classroom and on campus for faculty and students alike; this includes the use for educational and recreational purposes. "In the classroom (we have) internet facility… like if you want to use Google… we want to show some videos to students from YouTube… its available" (Dr Asad). Another teacher reported that internet is a big part of his classroom teaching "so I make them use technology in their phones (in class)… make them use internet to search and learn… I rely on these technologies greatly and without internet my class would be incomplete" (Nasir). This sentiment is also acknowledged by interviewees calling the use of technology in classroom making them feel "confident" (Dr Hamza), it is "easy to use" (Husna; Amina; Zainab), and "very helpful" (Nasir).

The use of Internet applications (apps) is the most common factor mentioned in relation to using technology in the classroom by all the interviewees. These apps are used in classrooms on laptops or smart mobiles, they are used in computer laboratories or even used at times off campus for reinforcement activities or assessment purposes. These include the use of ICT in integrated lessons through "gamified learning - Kahoot or Edmodo" in the classrooms or "digital fieldtrips" (Zainab), the use of MS Excel and PowerPoint on smart whiteboards (Dr Ibrahim) or some subject specific "online

activities" (Zainab; Nasir; Dr Shahzeb; Dr Asad). It is interesting to see almost all the interviewees suggested they had used Google Search at some point with their students. At a contextual level, a very interesting statistic appeared during the interviews; the use of these apps and internet activities correlated to the age group of the teacher and their educational background. The interviewees who were above a certain age or have been taught in a more technological environment were inclined to use technology in their classrooms more. It means the interviewees which were foreign-qualified or had educational backgrounds from more recent years, taught themselves with some technology, and were more easily able to use technology. The others would just use the least amount of technology which they are absolutely required to use; the interviewees' age appeared to make them more flexible about the use of technology. It is interesting to mention that this has not been discussed in both the policy documents. This issue is contrasting to a study conducted in Nigeria on 'Age and ICT-Related Behaviours of Higher Education Teachers' (Jegede, 2009). Four hundred and sixty-seven teacher educators from 10 teacher education institutions took part in the research. Findings revealed that age was not a factor when considering the attitudes, competence and use pattern of teacher educators. In addition, age was not found to affect the time used on ICT by higher education teachers in Nigeria. However, there was another direct relation of age on the pedagogical beliefs of the teachers, which seemed to be the determining factor in Pakistani context. Liu et al. (2017) suggest pedagogical beliefs of teachers to be critical factors in the success of technology integration in classrooms. To bring together both the factors, teachers above certain age who were educated in Pakistan were not introduced to technology until more recently. Their pedagogy centres on traditional styles of teaching, i.e., the way they were taught and the way they have been teaching since they themselves started to teach. Hence, there is very little room in their pedagogical beliefs for letting technology change it. It may also be that they are comfortable with their accustomed styles.

Learning Management Systems or LMS play a useful role in present day teachings. They increase students' engagement and support instructional processes (Gautreau, 2011, p 4), "an LMS provides access to student-centred teaching approaches, increased accessibility, assessment and evaluation features, and improved management of course content and administrative task." Ülker and Yılmaz

(2016) consider LMS to be one of the most important elements of e-learning, and in terms of its user friendliness “an LMS permits faculty to incorporate multimedia elements including audio recordings, music, video, text, interactivity” (Gautreau, 2011, p 4). Thus, in present times, LMS is regarded as an important part of students’ learning journey. The availability of Learning Management Systems (LMS) was mentioned by four interviewees. A very important fact about the use of LMSs is they are only available in one private and three autonomous institutes. Husna’s institute uses the learning management systems on a daily basis. She acknowledges that all activities are uploaded regularly, and all the students have access to the work. However, she mentions that the LMS is used not as a teaching tool but as a reinforcement tool. Therefore, in her institute, the LMS works as a guide to the students who have missed the work or want to follow the teachers promptly. In Ezaz’s institute, the LMS is available for all the new students and teachers simultaneously; however, it is rarely used in classrooms. In terms of the use of LMS in his institute, he said, “it's a university generated MOODLE… that we use as an LMS… umm… every student, every lecturer, I mean every faculty member has his own username and password… we go online to record our lectures, and every week we give feedback… add our slides and lecture notes even the list of preferred books, everything (on it)”. So, his institute uses it almost as a reinforcement tool as well. Two more institutes use LMSs; nevertheless, the use is limited to taking attendance, registration of students, uploading assignments and replying to the students’ queries. Both stressed that the main purpose for the LMS is to take and update regular attendance and upload and keep a record of assignments. The data shows that not a single institute uses the LMS for synchronised communication or as a direct teaching tool. The asynchronous feature of LMS is the most utilised in Pakistan’s context.

The ratio of using LMS is very small as compared to other technologies in the classroom. There seem to be a few reasons; the availability of LMS as an aid to classroom teaching, continuous availability of internet on campus, the acceptance or assertion of LMS to be helpful in classroom teaching, and most importantly non-availability of Internet or computers for using the LMS at home or off campus. Husna stated this issue: “there was problem from the parents… technology is not available at every home for everybody… even still so we keep giving them work (on LMS).” This is an important aspect to look at

at macro-level; this is the contextual reality of a developing country like Pakistan, that every home in every neighbourhood has not yet received internet connection, and some cannot afford it. It becomes very difficult for the students who belong to these families to use them after school even if they are available from and at the University. A question occurs here, can this have a partial impact on the studies or learning of these students? Unfortunately, both the policy documents do not provide any views on this matter, and I believe that is an RQ for a whole other research. Nevertheless, for the sake of my research, it is clear that most institutes are not factoring in whether students can or cannot use LMS facilities after class. Adzharuddin and Ling's (2013) research on the effectiveness of LMS among university students in Malaysia, reported that students learning though LMS depends on students getting access to it all the time. They mention the student's internet requirement to access LMS needs to be fulfilled at home as well. The study suggested that those students who cannot afford internet at home may access it through internet cafes to assist their home learning. Again, this is interesting to mention that both policy documents have no insight on this issue neither the previously mentioned. It seems that the Government of Pakistan only wants to *propose* what should be done by leaving the details of the *how*, which makes it more assumed future developments than practically feasible ones.

6.3.2. Theme 2: Use of technology in the classroom/ technology helping shape the teaching learning process.

After the above discussion, the provision of technology and technological tools in classrooms takes us to the next related theme: how are these shaping the teaching learning process? I found this theme to be extremely important to understand the actual role technologies play in classrooms. This has a direct influence on technology's use in classrooms because if the teachers think it to be more a hindrance than an asset, no one will use it. Before the detailed discussion of the theme, it is important to highlight the difference between this and the first theme, as at the first glance they tend to seem quite similar. Both the themes deal with technology in the classroom; however, the first theme reflects the institutional provision of technology in classrooms in terms of resources and equipment. The second theme, however, deals with its users, like the teachers and students; this theme reflects upon the pedagogy used in the classrooms affected by technology.

To understand the theme, literature suggests that classroom activities depend heavily on the relationship between learners' ICT experiences and teachers' pedagogical goals (Stevenson, 2013). A study conducted by Stevenson (2013) reports that empirical data regarding the impact of technology on classroom learning enables the teachers and learners to achieve their desired pedagogical outcomes. The study argues, "given these major investments, a legitimate question raised by policy makers, school leaders, teachers and parents is whether and to what extent digital technologies make a difference to educational outcomes" (ibid, p 149). The answer to this question is crucial for the future of these efforts for the implementation of technology in classrooms.

As mentioned previously, aged teachers, or teachers taught through traditional teaching, try to avoid the use of it. We need to know whether, in Pakistan's context, does technology actually play a role in assisting classroom teaching in some way? To begin with, all 11 of the institutes use technology for teaching purposes to different extents. The data suggest that four institutes use technology in classrooms consistently. Zainab said that they use technology to "support teaching and learning", Amina suggested that technology "shape the classroom in a positive manner… and students understanding much more deeper", for Asad "it (technology) makes my lectures very clear and demonstration very profound," and Hamza thinks "we like to use it (technology) on daily basis… I think it is very beneficial and very easy to use". Four more institutes use technology frequently but not regularly. Nasir said that using technology in classroom makes him feel confident and good about his teaching. He also mentioned that as English is not the first language of students, sometimes it is difficult to understand and with technology it helps as they get the meaning there and then, in classrooms.

However, another facet of data was recognised while analysing this; three institutes were not using technology regularly. They were only recognising the fact that all subjects do not require a lot of technological involvement. Dr Ibrahim said "Yes (we use technology) but it depends on what type of course you are teaching… um… for instance, if I'm a finance person I'll be needing basic PowerPoint and Excel… I will of course use them for delivering the lecture… and sometimes umm I have to share some videos with the class so I can use these (technology) things". The same sentiments were expressed by Nasir when asked about the use of technology in classroom: "it depends… it depends on the

subject… according to the nature of the subject, nature of the class". Dr Abdullah suggested the same: "it totally depends upon the course content and nature of the module, some teachers don't use multimedia at all they've never used it in any courses, because they don't need it and they also not feel comfortable using it". The reiteration of being *dependent* on the course and subject links directly to the discussion of education policy's suggestive nature. As the data presented, the policy integration highly relies on the teacher's perception regarding ICT, which is later discussed in detail in Findings in chapter 6. Dr Abdullah went on and pointed to a very important factor that some teachers do not prefer to use technology as they find it restrictive to their abilities perhaps due to their subject areas. He believes that Pakistan does not have sophisticated technology for the equal use of every subject area. However, the same results were not reported in a study conducted by Tınmaz (2004) to explore the factors affecting a preservice teacher's perception of technology in relation to subject areas at university level in Turkey. The study investigated whether subject areas of teachers affect their technological views and questioned if it was one of the important factors influencing the use of ICT in classroom teaching. The results of the study revealed that "subject area factor was not depicted as a major factor for technology perception. Even though some differentiations concerning subject areas were established, these differentiations were assumed to be due to the perceived computer competency levels" (p182). Nevertheless, the study concluded with recommendations, which included the subject area needs: "teachers' computer competency level anticipates their future technology orientation, since it affects their technology perception. Therefore, more focus on the technology related courses which are designed according to the preservice teachers' subject area needs and their level of competency is needed" (ibid). A relatively recent study (Cubukcuoglu, 2013) conducted at university level in Cyprus investigated the factors enabling the use of technology in subject teaching. The study questioned teachers' use of traditional teaching methods and their refusal to change their teaching strategies, and why new technologies may not be integrated into the teaching environment by specific subject teachers. The study explored enabler factors that help encourage teachers' integration of ICT into their teaching. The results "indicate that teachers' positive attitudes towards technology use in teaching would also make possible the integration of technology into education. Furthermore, it is important to be able to integrate technology into a related activity in subject teaching" (p 58). The findings reiterate what the interviewees like Dr Abdullah

said, reported earlier as well, that teachers will be more inclined to use ICTs in their subject areas if more resources were made available relating to their specific subject needs. It is important to mention here that both the policy documents do not tend to discuss any subject area needs of teachers neither any technology competencies relating to teachers taught subject. To understand it more an example might help; a teacher of engineering perhaps understand technology easily than a teacher of language like Urdu or of Social Studies. This issue is discussed later in the chapter 7.

The macro analysis of the interview data shows the two main aspects of usefulness of technology in Pakistani classrooms; helping students' understanding, and making teachers feel good about their teaching. All the data set informed that teaching with technology assist students' understanding more vividly. They also repeatedly mentioned that technology makes the classroom teaching interesting, engaging, 'fun' and "there is no doubt students learn faster through technology" (Zainab). However, when talking about how technology make teachers feel, the responses showed mixed feelings. Some who saw themselves are avid users of technology felt that it helps in growing their confidence (Nasir), enhancing their teaching (Ezaz) and helps them feel good about their classroom teachings when students understand more (Zainab). Nevertheless, some believed that, in addition, it also makes some teachers feel left out; the teachers who cannot use technology properly (Shahzeb), or who try to avoid its use due to lack of subject area resources or grasp (Ibrahim). In this regard, research (Cubukcuoglu, 2013, p 56) reported "Teachers' confidence and their skills in ICT use was another teacher factor that may enhance teachers' use of technology in their teaching. If a teacher lacks ICT skills, s/he may not feel confident enough to integrate technology in teaching". The study recommended providing the necessary skills training for subject area or otherwise to teachers to ensure proper use of ICT in classrooms.

In terms of students' engagement, different research (Bond & Bedenlier, 2019; Sural, 2018; Tsay, 2018) suggest that the most common motivational feature for the use of technology in classroom is its facilitation of students' learning. It can be through students' engagement (Bond & Bedenlier, 2019), at times hands-on-practice (Sural, 2018), or improving students' participation through a 'fun' and exciting learning environment (Elmahdi et al., 2018) that teachers find their motivation for its use. Investigating the effectiveness of technology-based formative assessment tools to enhance students' learning,

Elmahdi et al. (2018, p 187) found that "using technology-based tools, such as Plickers, enhances formative assessment and, consequently, improves students' learning. In addition, it is found that students' engagement is improved, when the teacher uses technology (Plickers for formative assessment) which leads to creating an effective learning environment that promotes learning". Moreover, the study suggested that it makes the class more interesting, 'fun' and informative.

6.3.3. Theme 3: Awareness/applicability/implementation of government ICTs policy

The implementation of Pakistani Government's ICT implementation policy depends on awareness to it, and institutes attitudes towards it. Exploring the same in the Maduri district in India, Maruthavanan (2020) conducted a study to find out the awareness of teachers for the education policy, suggesting that "to implement the educational policy successfully, the teachers must know it. If the teachers have complete knowledge of it, then only it will reach the top" and achieve its goals. He argues that the first step towards implementation is awareness and understanding of the education policy. The findings of the study recommended that this would help teachers, administrators, and in return policymakers. The interview data suggests that not everyone was made aware of this policy through their respective institute. The analysis showed variation of the awareness; when asked if the institutes had introduced any governmental policy of ICT integration, three of the interviewees informed that they were not made aware of the governmental policy. "We have not been informed of any (ICT) policy from the government. It isn't that there is no government policy, umm… but our institutes have chosen not to introduce it to us… neither the institute is using it… that this is the policy from the government to implement technology in classroom" (Dr Abdullah). Three institutions took the decision to override the Government directive, in which two were private but one was Government. No explanation is available from these institutions on the matter. It would have seemed acceptable that the institutes would have decided not to follow the policies, but it is interesting that institutions were not examined by the

Government of Pakistan to completely dismiss their existence. It is worth mentioning here that both the NEPs have no section in which this scenario is addressed or envisaged; hence government provides no details that if someone decides not to follow the policies than what is the government's criteria for them.

On the other hand, two of the sample institutes communicated the policy; however, that was the extent of it. The institutes just kept to making everyone aware of it, and carried on with their own individual policies, "yes, we are aware of the government policies but then, umm we are private, and we have our own private policies" (Amina). It is crucial to understand here that both institutes which were aware but not using the policy are private institutes; it is crucial, as private institutes generally have more administrative flexibility and less liaison with Government directives. Lastly, six of the institutes gained a clear criteria or guidelines from the management whenever HEC introduce a new policy, "actually um there is some uh from time to time, like different letters are communicated to the university by higher commission education of Pakistan or by higher education department" (Dr Ibrahim). Another interviewee mentioned that the faculty need to update according to those guidelines, "regularly we get notices from university administration, about any policy change (from Government). We are sent PDFs of these, and we need to add them to our understanding" (Dr Asad).

There are quite a few things which came to light at macro level; first, the institutes which chose not to introduce the policy were not only private institutes; therefore, it cannot be considered that this is just a linear attitude. Secondly, even when the universities were trying to make sure that this policy is being implemented, teachers felt inadequate efforts from administration, the issue is discussed later in chapter 7. Ertmer et al.'s (2012) research on teacher beliefs and technology integration practices suggest that for effective integration of ICT in teaching, support is required, which includes the obvious support such as technological, professional, and to mention administrative as well. The results of the study revealed that the teachers' integration level increased, those who were encouraged and supported by their administrators to implement ICTs in classroom; the socio-political aspect of implementation is evident here. Mthethwa's (2012, p 41) study 'Critical dimensions for policy implementation' conducted at university level in South Africa suggests, "Leadership is essential for effective policy implementation. High-level actors and influential leaders can communicate about the policy's rationale

and mechanisms, and champion the policy to ensure implementation, which requires co-ordination and co-operation." Thus, the only way the teachers will be able to adapt and implement the policies in their classrooms is the way the administrators and high-level actors present the policy to these teachers.

When discussing implementation of Government NEP regarding ICTs in his respective classroom, one interviewee referred that the policy was not that practically reinforced, "as such I don't think any technology related policies are implemented (in classroom) as such, as far as I know (Dr Ibrahim). The reiteration of the notion of regression of implementation was echoed in the interviews. Another interviewee shed light on the matter in a more contextual way, "it's a mixed feeling… as there are certain groups of faculty... I mean the faculty which is much older will resist the change um... at the time of their education there was no technology so they are very hesitant to use the technology which can help the classroom… and then there's a group of teachers who are young energetic… umm they're more interested in using the technology because they've been using it already in their study time… er… and also in their free time what helps when making and preparing lectures… so there are some mixed feelings" (Nasir). This reluctance as suggested by Laffey (2004) may be due to their concerns regarding the ICT in their respective classrooms, inability to actually implement it, or unwillingness to change their teaching practices, and the explanation for this may come from the context or the personal history of the individual teachers. The teachers' adaptation of technology is a vast topic and suggests different interpretations at different levels which is discussed later in chapter 7 in ' Perceptions for ICTs'. However, it is clear that when adapting technology "the path is not simply linear and that tools may be mastered but not appropriated, appropriated for some roles in some contexts while not in others, and that it may be more useful to see appropriation as not simply a psychological or individual stance but rather a stance within a context" (ibid, p363). The way the technology is adapted requires to be learned in a way which is most suitable for the adaption; therefore, it is used in classrooms in variety of ways.

DeGroff and Cargo (2009, p 52) suggest that policy implementation relies on some factors and one of them is its socio-political context. They discuss it as "socio-political factors play out at all levels of the policy implementation process. Implementers' decisions about whose needs will be served, how they will be served, and which outcomes will be valued are determined in part by social and political factors."

Looking closely, we understand that the preference of institutional policy over the Government's is due to their socio-political agenda. Therefore, the decision of overlooking Government's policy is not coincidental or haphazard, but a conscious one; the institution believe that they are aware of their own contextual realities more so than the Government, thus they are able to provide for their own students' needs in a more elaborate and feasible way. This agenda resonates the fact that the policy from the Government are guidelines and a collective umbrella approach. This is discussed in the next theme in detail.

6.3.4. Theme 4: Institutional resistance: inequalities, bias, and hegemonies

As stated previously CDA offers a critique of the hegemonies established and normalised through discourse, and the power exercised through controlling the context i.e., institutions resistant. The inequality within the context creates bias, and the influences of culture reproduction ideology is expressed through the resistance between government and institutional policies. These patterned mechanisms of power asymmetries are revealed through CDA (Sikandar and Hussain, 2018) which looked at the data which generated quite individualistic responses when reviewing institutionalised ICTs policy and the NEP in regard to the ICTs policy from Government through the HEC (Higher Education Commission).

There are three categories which determine the institutional resistance based upon inequality , bias, and hegemonies. First, the institutes are aware, and they use the policy as per Government's directive; secondly, the institutes which are made aware of the Government's policy, but due to bias the institute prefers their own policy over it; thirdly, the power asymmetries that institutes which are officially not made aware of the Government's ICT integration policy, and they use their own policy. Taken together, these three categories provide evidence for situation of the policy at institutional level. The discussion on these three follows.

The first category of institutes are coherent with the Government's criteria for integration of ICT in classrooms. These institutes are officially, or as called in Pakistan, informed 'through proper channels,' giving birth to inequalities within the context. Six institutes informed that their institutes regularly update according to the Government's directives, and the policies are followed as per official guidelines. It is very important to mention here that from these six, two are private, two are autonomous and two are Government institutes. Nasir said "they (Higher Education Commission from Government of Pakistan) have meetings within University with HR. We have different levels of meetings; just faculty with themselves, then the facility with head of the department and director academics, and the head of the department with each of the departments individually (regarding Government policies). Then we have QEC, quality enhancement cell, in the University which ensures that certain guidelines and certain basic rules which are provided by the HEC, we should be following correctly." However, it is not so simple for every institute. Ezaz explained another way some institutes cohesively adapt Government's policies, "We normally receive a notice… guidelines from the HEC, then the management sits and they under those guidelines, because they are just guidelines , HEC never gives strict instructions, they're just guidelines, just generic guidelines… each University decide their own policy so once the University receive HEC guidelines, then the University arrange a meeting of the management and then they make their own policy which are under the shelter of HEC guidelines." Here it is interesting to notice categories forming inside the categories. As previously stated, these are not linear adaptations, each and every one of the institutes which are integrating the technology differ from one other at different capacities. As researcher it is very interesting to see a spectrum forming in each of the categories were themed together just to answer the RQs of this research, which relate to the diffusion of innovation as discussed in chapter 2,. Hence, even if the institutions are put together in a group, as a researcher I acknowledge the differences they borne, but as this research only needs to deal with implementation or no implementation, despite its range, hence these themes stand true for this research. Thus, these

institutes are grouped together which apply the policies to the best they can, although they interpret it in their own accord; nevertheless, implementation *happens*[8].

The second type of institutes are informed but due to their bias prefer to use their own respective policies. This is perhaps for two reasons. Firstly, they are not under the direct authority of the Ministry of Education, e.g., they are private or autonomous bodies. Secondly, even a government university has control on matters within the department and they are biased and chose not to include the policy. There are reasons for this type of conduct. The first is that they simply prefer their own institutional policy, which is easier for them to implement (Amina). Another reason is they believe their policy to be better (Zainab). The data suggest that the institutes in this category perhaps have a very interesting view of their government policies. Amina brought another dimension to this group by acknowledging and expressing an opinion that all the policies in educational institutes are somewhat same. She believes that even if her institute opted out of integrating the government policies, their own institutional policy is perhaps on the same lines as the government policies. The only difference she could understand was that their own policy was more contextual and localised for their own needs which per se makes it a better option for their institution, thus making it easier and better to implement.

The third group of institutes are the ones which decide to completely abandon the government policy. It was very interesting that even if the institutes were not made officially aware of the Government's policies, none of the interviewees denied the fact that universities were unofficially aware of them. It is quite curious that the institutional resistance is so powerful that universities can overlook the government policy and show even more power asymmetry when the institute does not introduce the government policies at all. One government, one autonomous and two private institutes are not officially aware of implementation policy from government. Both the private institutes expressed that the institutes use their own policy, "no we are not made aware of any government policy… but we have our own policy from my own Institute…. we follow our own policy because we are monitored from the Department of ICT in our own Institute… they follow and monitor us regularly… we always share our

[8] the evidence for this comes from the interviews discussed earlier.

plans with them on weekly and monthly basis you know within the Institute we have micro planning" (Husna). The autonomous institute believed that the policy was not meant for all, "there was no policy given to us by the government regarding the use of technology in the classroom… it was developed but not delivered to all… they (government) half the policy and they have the system…. The policies introduced and forwarded from HSE of Pakistan very implemented in most of the universities of Pakistan" (Dr Shahzeb). However, the response which depict most resistance to government policies was from the government institute: "we have not been informed of any policies from the government… it isn't that there is no government policy, but our Institute have chosen not to introduce it to the teachers neither the Institute is using it in terms of that this is the policy from the government to implement technology in the classroom" (Dr Abdullah).

It was a summative assumption that the policies are not reinforced. The Government leaves too much to the discretion of institutes for the implementation of these policies. A voiced concern was that the vast difference between the implementation of ICT integration in different institutes is due to the negligence of Pakistan's Government on "monitoring and micro planning" (Husna). A common complaint was the lack of uniformity to follow any governmental implementation (Ali). It was also mentioned that private institutes follow a proper "chain of command when it comes to implementing a policy" (Amina) but "the government does not measure the policies properly they don't know what is going on… on the institute level, they don't look at the strengths or approach of a university" (Dr Asad). It is evident that "there is a gap between the government and private universities" (Ezaz) which is due to "resources because all of the universities don't get all the same finances (budget)" (Nasir). Dr Hamza suggested that "(government) should work on clear goals, they should work on adapting these policies slowly not implementing all of a sudden, it's not a rapid process it needs to be gradually adapted."

During the interviews, two interviewees raised an issue which was not mentioned previously. Towards the end of the interview when they were asked if they wanted to add something, using their native language, two added something rather unexpected; they stated that the institutes they work in get the budget from the government; however, some of it is not used as per government's directive and as previously mentioned in chapter 5, is embezzled. This leaves the institutes lacking the resources which

they supposedly have, just on paper. Thus, when a team from the HEC visits the institute for audit, the leadership or administration borrows the equipment and other required resources from neighbouring institutes, returning it after the team leaves. It was reported the same situation is observed in some other institutes, as they do the same when HEC teams visit them, and this is kind of an open secret within those institutes, and no one raises any concern or exposes the matter. It is interesting to know that both these institutes are government universities. According to the interviewees, this is one of the reasons of poor implementation of government policy. This is not the first time that this issue has been raised in the education sector. Research conducted all over the world (du Plessis, 2014; Hallak & Poisson, 2005; Suryadarma, 2012) suggest that these frauds and embezzlements are a part of the education sector since a long time. du Plessis (2014, p 1308) deems it more harmful than any other form of corruption, "Corruption in education is particularly damaging because it endangers a country's social, economic and political future. Corruption in education is more detrimental than corruption in other sectors because of its long-term effects." It also leads to lower quality of education, motivational drop amongst the teachers, and poor classroom conditions (Hallak & Poisson, 2005). du Plessis (2014, p 1308) sheds light on another issue, that "when it comes to higher education, access in many countries depends more on the parents' purse and social status than the talent, effort and merit of the students. Unfortunately, corruption tends to be one of the principal reasons behind all these problems." This leads to the talented and motivated students left behind; thus at institutional level, the success and drop-out increases. In Pakistani context, where the education sector is not strong, facing this type of problem increases the disadvantageous situation twofold; there are already scarce funds for students' enrolment; embezzlement puts more stress on the matter and poor classroom conditions may increase dropout rates, making it most unfortunate.

Another reason reported in the literature for low policy implementation at institutional level is that it may be due to the institute's limited capacity. Research by Davids in 2009 on 'Policy implementation capacity challenges' reported that the ineffectiveness of policy implementation may be just the result of institutes' incapability to accommodate it; it can be equipment, skill or lack of organisational budget allocation. The same sentiment was echoed when Dr Abdullah mentioned that they need to wait for

their turn and schedule their classes to get to the ICT laboratories. Amina and Husna faced the same issue; however, Amina stated that they have more than one ICT laboratory for regular use. Nevertheless, it needs to be acknowledged that this issue does not seem neither to be existent in all the institutes included in this research, nor everywhere else. The capacity of the institute depends on how established, aged, and diverse that institute is in terms of its departments and faculty. Although this required to be documented in the study because it does create an implementation hurdle for technology, this issue is encountered by only some so is not regarded as a general implementation barrier.

6.4. Conclusion

While working with the interview data, I found that it is neither a simple nor a linear process. The richness of the data was variant on so many levels. The most versatile factor is the humanistic feature of the answers; I could see that interviewees were expressing information on so many levels without even acknowledging it. Analysing the data, going back and forth to generate the themes was very helpful in understanding the data at meso and macro levels. The discursivity of the interview data was evident throughout the interviews. I found the data to be contextually situated which was the kind of data this research required.

In addition, it was very interesting to discover the power, and how it works within the discourses. At institutional level, power resistance due to inequality, bias and hegemonies of asymmetrical controls were quite easy to reveal. However, the most curious part of it was that powerless nature of two powerful documents i.e., NEPs. As evident by the interview data, the weak position of NEPs at contextual level was something quite unique to find. It was almost its existence or otherwise, had no impact, and the expected power emittance from an official document faced such asymmetrical power resistance that the power within its discourse faded. The interview data further revealed that the actual power resided within the context, the institutions, and the stakeholders.

Furthermore, exploring Pakistan's context to gather data through interviews and analysing it, with the help of generated themes was intriguing. For this, the literature from developing countries was read and included. Contextually, Pakistan relates more to them, and some similar issues were found, i.e.,

electricity breakdowns, overcrowded institutes, lack of provision of ICT equipment, connectivity issues, lack of training and skill, and demotivation (Farrell, 2007; Karanja et al., 2018; Khan et al., 2012; Rhema & Miliszewska, 2012; Sultana & Shahabul, 2018). Nevertheless, to improve on one's situation, one needs to bridge the gap between the policy document and the actual implementation of ICTs from NEPs. In the next chapter, this research suggests a policy implementation document which is influenced by the ICT implementation document as suggested in the developed countries. This implementation document is to strengthen and bring close together the suggestion in the form of proposed education policy and the execution of Pakistan's ICT implementation.

Chapter 7: Discussion

This chapter discusses the research findings through answering the research questions. The research questions were developed as part of this study's aims of understanding ICT integration through Government policy in Higher Education Institutes. In this chapter, the outcomes are derived from both data sets, i.e., the national education policies of Pakistan 2009, and 2017, and the interview data from 11 different higher education institutes in the KPK province of Pakistan. Both data sets are discussed and described in the light of the research questions to understand the contextual realities of ICT integration in Pakistan. In addition to that, this chapter also discusses critical discourse analysis and how it helped understand the research questions. This chapter connects the findings of this research to previous studies to paint a more holistic picture. Finally, this chapter also discusses a way forward with a recommendation or proposal of implementation plan to help the implementation of ICT in Pakistan.

7.1. Introduction

The purpose of this study was to fill in the literature gap by investigating the position of ICTs in Pakistani education, policy and practice both, for higher education institutions in KPK province of Pakistan. Moreover, based on research findings, to propose an ICTs implementation plan which may become the basis for the first ICTs policy in education in Pakistan. This study aimed to find answers for the following research questions and sub-questions

RQ1. What does textual analysis of Pakistan's NEP inform us about ICTs in education?

a. What does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in theory?

b. What are the determinants involved in the process of policy implementation?

RQ2. What does the interviews of stakeholders at institutional level reveal in connection to Pakistan's NEP for the ICTs integration in Pakistan's education system?

a. How does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in practice?

b. What facilities are in place for this implementation?

- The literature suggested

Pakistan came into being in 1947, and since then it has struggled in its education sector. The government has seen problems with achieving the proposed aims in the education field for 70 years. The lack of funding, lack of motivation to become educated and unavailability of suitable education (Bengali, 1999) has plagued the education system in Pakistan.

In Pakistan, the education system welcomed ICTs about twenty years late than the western world (ibid), but even then, it was not prepared for them. These technologies were first introduced to the system in the new millennium; the NEP 2009 introduced ICTs. However, the data reveals that the country and the agents within the education field, i.e., students, teachers, university administration, etc., were not equipped by the government to handle it. Nevertheless, to affirm the situation, this field of research is overlooked in Pakistan. The literature review of the similar contexts revealed that the developing countries like Kenya, Libya, and Bangladesh, faced similar struggles when it came to ICTs implementation and integration in HE level classrooms. The lack of resources, fundings, training for this implementation, political turmoil influencing the situation, lack of equipment, and research in the field were found to be a constant effecting factors.

- The data reported

Education Policies: Pakistan's Government projected knowledge as a commodity and wants to ensure that it produces enables graduates for the job market (NEP, 2017). The shift or push towards emphasis from 'muscle to mind' (Toffler, 1990) was evident when both NEPs 2009 and 2017, are compared together, the later policy showed this dominating the policy document.

The interviews: The data revealed a range of awareness and acceptance towards the integration, from none to very good. The interviewees believed the integration was the future, yet most felt no motivation. The lack of training to enhance skill was the major deterrent in the confidence towards ICTs.

- The analysis confirmed.

The CDA of both the data revealed that the power relation between the government policies and institutions had socio-political factors involved. The textual analysis showed that the power dominant nature of NEPs was facing resistance at the institutional levels. As discussed in literature review, the data through analysis confirmed that Pakistan was in similar situation in terms of ICTs integration as some other developing countries. The factors reported were inequality at social at institutional level, the lack of funds, embezzlement, inadequate support for teachers, and lack of research amongst others.

- The findings revealed :

As presented in the previous chapter, the new understanding developed through this research include:

- Pakistan does not have any ICTs policy for the education sector.
- Not one of the education policies achieved its goals till NEP 2017.
- The stakeholders are not included in the process of developing the policies, thus they lack understanding and motivation for ICTs integration.
- The dissemination process of education policies is weak and may be regarded as rather unequal.
- There is lack of research for policy formulation and implementation.
- The accountability for policy implementation is low-to-non-existent.
- Embezzlement of funds and resources is reported.
- Teachers feel inadequate support from administration.
- Neither feedback is collected for policy formulation nor is it included in the new policy documents.

7.2. Findings

The first and foremost finding was the fact that Pakistan has no ICTs policy for the education sector. This shows that the Government of Pakistan does not acknowledge the place of ICT in education. As previously mentioned, not even one policy of education in Pakistan has ever achieved its goals or has been thought to be successful; it seems it is time for another strategy to be successful. This finding led me to believe that perhaps the key to the future success of Pakistan's education sector lies in the integration and implementation of technologies in education.

The findings from the first research question described Pakistan's national policies about ICT in education; we understand that the policies were found to be quite weak in their dissemination. As previously stated, the NEP 2009 was vague on the delivery due to being novice in its approach and understandably a beginner's manual because it was the first one to include technology. Thus, the policy formulation was considered to be one of the barriers as there was no emphasis on technology; it was rather just 'scratching the surface' by indicating mere introductions of technology in general and aims of introducing technology to different sectors of education. The NEP 2017 on the other hand seemed to have much more grasp on the implementation, as the policy was considerably well formulated, the ICTs were not just thoughts and assumptions, but plans were made keeping different sectors in mind. Although the policy was not based on the research carried out on technology implementation in Pakistani context, the policy still attempted to fulfil the range of sectors the NEP caters for.

To understand the findings about the part the policy plays for the integration of ICT in Pakistan's education system, the data suggest rather interesting things; the policies were not implemented as required, the Government appears to lack the will and determination, the stakeholders are not very keen, some even find it an extra hassle or "a formality" (Zainab), and some consider the policies to be extra enthusiastic guidelines. However, the data also suggest that there seems to be a shift in the attitudes towards ICTs in general, although the two policies are somewhat the same in terms of implementation for the institutions. Nevertheless, attitudes are changing, becoming positive towards this implementation but the lack of support is one hurdle. It was anticipated that an upcoming policy will have a better more practical approach to ICTs implementation and more support for the institutions.

Nevertheless, my research found that both the research questions and sub-questions point to lack of support in implementation. In addition to the weak formulation and inadequate dissemination, another factor found to be a barrier was lack of stakeholders' involvement with policy makers. The sentiment is echoed in chapter 5. This lack of involvement results in lack of understanding of ICT implementation resulting in lack of motivation towards ICTs.

The involvement of politics, and its economic influences on the implementation, have been presented in chapter 4 and chapter 5. The political connection links the whole scenario to embezzlement of funds leading to more hurdles in the implementation process. Thus, it results in lack of funds for resources, for training and most importantly funding for research.

7.3. Analysis

This research was conducted in two steps; first, an analysis was carried out on the education policies of Pakistan which are dealing with ICTs, i.e., the NEP 2009 and 2017. In the next step, interview data were collected from 11 higher education institutes in the KPK province of Pakistan, from a mix of faculty and administration, who were decision makers in their institutes at some level or other. Both types of data were analysed using Critical Discourse Analysis. As stated, this research analysed its data using critical discourse analysis as proposed by Norman Fairclough (2001). The CDA explored the data in a detailed manner; it looked at the data on three separate levels (Janks, 1997). At the micro level it dealt with the text and the way things were described in the policy document of NEP 2009. This level focused solely on the use of discourse, depicting how the language was used, and more particularly how the things were stated in terms of the use of language components, including grammar and composition in the education policy. As explained earlier, for my research, micro analysis was used only on one data set, i.e., education policy documents 2009. The macro level combined the micro and meso by building a bridge for exploring the discursive patterns. The macro level dealt with bringing out the genres in the texts using discursive analysis. The meso level analysis is the top tier for looking at a situation. This analysis helped in understanding Pakistani context and relating the discursive analysis to situational realities of Pakistan.

The two research questions and sub questions of this study were formulated, keeping the two sets of data in mind. The first research question attempted to answer through the analysis of national educational policies of Pakistan. This research question aimed to understand the status of ICT in the national education policies 2009 and 2017. The first research question and its sub questions were:

RQ1. What does textual analysis of Pakistan's NEP inform us about ICTs in education?

a. What does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in theory?

b. What are the determinants involved in the process of policy implementation?

This question explored the national education policies of Pakistan in detail to find out the position of ICT as defined by the government of Pakistan in these policy documents. The following section discusses some of the key elements which came into view in relation to this implementation. Vinnet and Pont's (2017) framework was used for determinants of education policy implementation which is loosely adapted to answer the research questions.

It is to be noted that although both these data sets were analysed with the same lens, nevertheless they could only work side by side to answer the RQs of this study. To put this in perspective, policy documents represent the highest of institutes of Pakistan i.e., the Government and the CDA of the policy only demonstrated the way Pakistan's Government believed education can be influenced to work at certain levels. The interview data on the other hand, provided a view of situation on the practical level i.e., the institutions. The analysis revealed some very critical aspects like the NEPs text were power based coming, from the authority of the Government, the policies themselves were dominant but discursive in nature, and the interviews showed resistance to the power of policies due to inequality in its dissemination and the inequality of societal elements like funding, prestige, and influence of different institutions.

As previously mentioned, the policy documents did not seem to be the result of any research. This compelled this study to seek the truth on the ground, to unfold the actual practices which perform at these levels, thus the interview from stakeholders became part of this research. These practices were

not stemming from the Government policies but were dominantly culture influenced with society playing a crucial part. It was clear that these practices were parallel to the Government policies in a sense that they were result of institutional polices. The ideology of hegemony presented in both are different as the power that was exercised through the control within the discourse in Education Policies, and power exercised through controlling the context because of institutions resistant was similar but not the same.

7.3.1. The justification of including ICTs in NEPs

When a government publishes a new policy, it needs to justify the reason why public funds are utilised, before publishing a new document. The reasons range from the previous policy going obsolete, some new development or/and addition, or perhaps an entire new direction. Whatever the justifications, they need to be made clear and be made public for transparency of the utilising of funds.

The Government of Pakistan has been publishing a new education policy almost every decade since Pakistan's inception. These policies had greatly been influenced by their predecessors and overly enthusiastic with their aims and goals (Bengali, 1999). As mentioned previously, the NEP 2009 was the policy which introduced the ICTs to Pakistan's education system. Thus, it is easier to understand that when ICTs were introduced in the NEP 2009, the agenda was not merely a revision of the previous policy as proposed by Viennet and Pont (2017), rather an update on behalf of ICTs. Nevertheless, it is evident that the plan to introduce the ICTs in the NEP 2009 was not thought completely through. The analysis reveals that the introduction of ICTs seemed to have a political agenda. As stated in chapter 2 'Literature Review', the ICTs were included in the NEP 2009, after the publishing of collaborated work of Pakistan Government with the USAID (United States Agency for International Development) programme from the American Embassy, to help the development of a national information and communication technology strategy for education in Pakistan, with the Ministry of Education, Pakistan. This strategy is mentioned in NEP 2009 to be the influence for ICT inclusion in the policy.

To understand this predicament, it was essential to know that Pakistan is a developing country, and it needs funds in every sector from developed nations to help them expand. This is the reason that when the strategy report from USAID was published, to continue to get the support and funds from the USAID and other agencies of the United States, it seems it was important for Pakistan to prove that they were taking these reports seriously, and to demonstrate it was included in Pakistan's up-coming policy. Thus, the inclusion of ICT in education policy of 2009 can be considered as a political agenda altogether.

This was also evident from the way the ICTS were presented in NEP 2009; firstly, the fact that the policy document only included the information provided from the USAID strategy collaboration report on national information communications technology. There is neither personal input from any Pakistani government agencies, nor from any scholarly research done on ICT in any sector in Pakistan till its publishing. There is nothing which suggests the collaboration of the policy makers and the stakeholders and agents in the field. Secondly, as analysed through the discourse analysis of NEP 2009, the presentation of the ICTs is very theoretical. The micro-analysis suggested that the presentation of the ICTs in the policy document was just hinting to its use,

"ICTs shall be used to strengthen the quality of teaching and educational management." (NEP 2009, p 45)

The use of the language suggest that ICTs *shall* be used, without a definite schedule or plan, a timeline, or a criterion. This indicates the integration and implementation of ICTs to have very weak standing. The fact that there were no plans involved shouts to the reader that the inclusion of this integration in this policy, i.e., NEP 2009, is not a well thought or researched area; hence, its inclusion only reinforces the notion that it was under the influence of a political agenda.

However, the same is not the case with NEP 2017. As presented in chapter 4, NEP 2017 describes the integration of ICTs as "the necessary change(s)" (p 92). The policy details the promising future which can be achieved with the help of ICTs in education. Although the policy does not devise a complete plan of implementation, nevertheless, it still shows the way forward in terms of the strategies the Government of Pakistan is envisioning for ICT's better implementation; new universities are being

established, technology parks are being launched, and there is increase in technology-based distance education, etc.

In addition, the NEP 2017 not only holds a clearer progressive stance than its predecessor, but also this approach is based on some context-based analysis. It acknowledges ICTs importance, expresses that Pakistan needs to adopt these for future progress, admits that Pakistan is deficient in the sector, and proposes ICTs to be included at all education levels in their respective capacities. However, it is unfortunate to see that even after understanding the contextual realities of Pakistan through context-based analysis, the policy still seems to project some very unrealistic, unachievable targets. For example, the policy document acknowledges the fact that there was limited budget allocated to education in an already scant budget of Pakistan; the policy states one of its ICTs targets to be the equal provision of ICT facilities for both urban and rural areas throughout Pakistan, which is unachievable as the rural areas of Pakistan still hold very low literacy rates, as explained in chapter 1.

Nevertheless, the most promising feature of the NEP 2017 was not even its progressive nature, but the fact that the government of Pakistan indicates that more efforts are planned to be applied in conducting *research* in this sector. This brings the implementation of ICTs to a whole new level. As previously stated in chapter 4, while planning for future education, the NEP 2017 stresses the importance of research and implies that its significance cannot be denied. The policy states,

> 'A culture of innovative and commercially useful research shall be created and promoted at all public and private HEIs (Higher Education Institutes) to discover and disseminate new knowledge that is a precursor of developing a vibrant, progressive economy (NEP, 2017, p 84).'

This indicated a new approach of government towards the ICTs. Hence, the Government planned to establish these opportunities to create data for research. It also states that government plans to support those scholars who publish research papers and will give incentives and rewards as per their respective published research papers.

7.3.2. The design of policies: does it help ICT integration?

The design of both these policies are the follow-ups of their predecessors respectively. The policy documents are distributed in different sections as discussed in chapter 3. These sections are called *chapters* and they are named, e.g., Primary education, Secondary education, etc. The NEP 2017 is better organised than NEP 2009; however, it follows the same layout and presentation of the contents. The comparison between both the policies shows the difference between their layouts; the NEP 2009's presentation is vague on clearly marking topics. Nevertheless, NEP 2017 has a clear topic structure and layout execution. In terms of ICTs, the only difference was that NEP 2009 only mentions it in different sections, blending it within the texts. For example, in the chapter 'Higher Education' discussing plans for the future of higher education in Pakistan, the policy states,

> 'Modern information and communications technologies (ICTs) are key to enhancing efficiency, efficacy and impact of programmes of development in the higher education sector (NEP, 2009, p 58).'

However, NEP 2017 has a dedicated chapter to ICTs, detailing its need in education, requirements, and future plans. The chapter brings the strategies of government together. Arguably, it can be said that they are not much different, for example NEP 2009 consider ICTs in the 'Higher Education' chapter to be almost the same; NEP 2017 discusses plans for higher education in a chapter named 'ICTs'. Nevertheless, they are doing the same thing, so what difference does it make? To respond to the argument, a closer look at the design is required. The arrangements of the policies express the importance they are giving to a particular sector, i.e., ICTs. While discussing higher, vocational, distance education, etc., in the policy, the NEP 2009 states that ICTs will be used to help them grow. The weight was of the sector discussed, rather than the tool, i.e., ICTs. Whilst the NEP 2017 acknowledges ICTs, a greater factor in the growth and development of the country, as important as any educational sector. In addition to giving it full weightage, it also formulates goals for it as well. Thus,

making it equal in the policy document to the other educational sectors and acknowledging its importance in the country's progress.

In terms of layout, there was nothing in particular which can link it to the ICT implementation; thus, the presentation of the content was not considerably significant. Nevertheless, a very important factor for understanding the technology implementation was the use of language in the policy documents. To begin with, these are policy documents and the expected tone from a policy was to be informative, guiding, and influential. Although the language used was found to be persuasive in nature, it was nothing but suggestive. As discussed in chapter 5, the language of both the policies was not persuasive, and was more in line to recommending and outlining. The argument here is, whether the suggestive language was to be used rather than the persuasive or vice versa; a research discussing the effectiveness of firm and suggestive language indicates that the "assertiveness emphasise the urgency of the matter at hand and, when an issue is important, assertive messages may tend to be more effectives in encouraging (its implementation, however) in many cases forceful, assertive phrasing may be detrimental" (Katz et al., 2018, p 4). This highlights two parts of the language use; persuasive or assertive language is used when the urgency of the matter is undeniable and needs full attention. Secondly, the research also draws attention to the use of this type of language and suggests that it may cause to have rather unexpected results, and instead of improvement, it can cause damage to the implementation process. Here, both two facets of language use have their own agendas; the persuasiveness shows the adamant expectation of the government to make use of technology in the higher educational institutions, bringing them near to international standards (NEP 2017). Nevertheless, as previously mentioned the firm use of language can cause damages to the ICTs integration agenda and can cause backlash. However, to achieve this delicate balance it is advisable to take the institutions on board while formulating the policy. This may help the comprehension of the policies and its transition at institutional level.

Connecting it to the context, we understand that Pakistan is a developing country, and the resources, as discussed previously, are limited and sometimes even embezzled. This puts much strain over the already stretched financial situations of institutions. Hence, giving them no choice but to follow direct orders is

neither democratic nor wise. Acknowledging that when the assertive language was used, this assertive phrasing emphasises "a restriction on freedom of choice (and) the linguistic meaning of the assertive phrasing implies that the addressees have no way for refusal" (ibid) or a way out. This can cause retaliation in terms of institutions starting to complaint and escalating to protests which benefits no one. Hence, the use of suggestive language in Pakistan's education policies for the implementation of ICTs was a wise choice and perhaps may bring healthier results than otherwise.

7.3.3. The goals

Looking at the policy documents, the 2009 education policy was not clear on goals regarding the use and implementation of ICTs. It provides suggestions like, "ICTs shall be used to strengthen the quality of teaching" (NEP, 2009, p 45). As stated previously in chapter 5, the scant reference of future directives of ICT implementation is reflective of the Government of Pakistan's naïve approach towards ICTs. However, it was understandable, as ICTs were new to Pakistan's education system. Also, the discussion in chapter 5 reveals that the inclusion of ICTs to the NEP 2009 was more as a political agenda. Hence, there was not much thought process or research behind this inclusion.

Nevertheless, NEP 2017 had far more clear objectives regarding this implementation. The policy document underlines the areas where ICTs were to be utilised and needed. It reveals government's plans for ICT's future endeavours. However, the issue with NEP 2017 was that these plans were not realistically achievable. Keeping the contextual limitations in mind, the practicability was not considered. Following, some examples are discussed:

- While discussing the policy provisions to achieve goals and target, the policy declares "Pakistan is bound to make necessary changes in education policies and focusing efforts on using/integrating ICT" (p 92). The discussion seems unwise, as declaring 'Pakistan is *bound to make necessary* changes' was a very bold statement. It was highly unlikely in two ways; first, to consider that Pakistan will change just because change was necessary, was not a valid enough reason. Secondly, as previously mentioned in chapter 4, no clear, practical path or plan was linked to this future directive.

- The policy states "Realizing these goals has financial implications for Pakistan and it was important to increase financial resources because Pakistan was included in the list of those countries farthest away from achieving quality education for all at all levels. Donor countries along with UN organizations stress the member countries to commit to increase public spending on education in accordance with country context and urge adherence to the international and regional benchmarks of allocating efficiently at least 4 - 6% of Gross Domestic Product and/or at least 15 - 20% of total public expenditure to education" (ibid). Thus, the policy makers need the Government of Pakistan to increase the budget allocation for education so Pakistan can get more funding from the UN and developed countries. However, it is far from reality; Pakistan already struggles with its budgetary allocations (Abbas et al., 2017). Hence, depending on one unlikely event, considering it will lead to the other for the betterment, was unreasonable.

7.3.4. The premise

The sense of both the education policies was future educational reforms. The premise of growth, change and development was consistent with an aim for a better future. This signifies the optimistic approach Pakistan's Government want to transfer to the stakeholders. The theme was evident with reiteration and repetition of language to emphasise the direction towards the future, heading towards economic growth. The policies reveal that the government believe that ICTs was the path to future education and acknowledging this seems to affect its integration in a positive way. It was apparent from the efforts of government in the positive portrayal of ICTs that this was what the government wants the stakeholders to follow and adapt.

The analysis revealed that the use of language in both the policies indicated *lack of conviction* for implementation of ICTs in higher education institutions. It is evident in NEP 2009 that the policy makers were keen on including ICTs for the sake of inclusion (chapter 4). Nevertheless, this lack of conviction has nothing to do with confidence in planning ahead; the policy still proposed aims, goals and targets. Although NEP 2017 had a firm grasp on the matter, the policy still required resolute execution. It still

seems that it, as its predecessor, was stating the facts rather than steps for its implementation. It can be said that this lack of conviction was the result of aimless planning due to the absent co-relation between the agent and the stakeholders, i.e., Government and the institutions, over the policy-making process. As discussed in chapter 4, the unidentified sources of responsibility, power and authority makes it more impersonal, and thus more difficult to question (Al-Ghazali, 2007). Thus, the missing co-relation of the non-human agency and its stakeholders makes the policies difficult to accept, adopt and implement.

The most dominant theme in both policies is its reliance on a knowledge-based economy. As discussed in chapters 2 and 4, the knowledge-based economy is when knowledge is used as a powerful force for economic development. The study by Bano and Taylor (2015) reviewed the part higher education institutions played in Pakistan's KBE. The study, as previously stated, put much significance on higher education as a means to Pakistan's KBE and declared Pakistan has such potential for moving towards a promising KBE. However, the need for an integrated education system for Pakistan with growth in research culture was considered to be the way forward. Nevertheless, echoing the neo-liberal critique on KBE, Pakistan's education system suffers from widespread social inequalities. ICTs are present in the financially secure and mature institutions. These have specific criteria for allowing admissions and high fees, resulting in limited number of students' admissions from the lower income classes, increasing the gap between the social classes. This adds to the social issue; the rich getting richer and the poor getting poorer due to subsequent denial to higher education.

The second research question and its sub questions were

RQ2. What does the interviews of stakeholders at institutional level reveal in connection to Pakistan's NEP for the ICTs integration in Pakistan's education system?

a. How does the hegemonic ideologies, social conditions, and power-relations in policy implementation entail in practice?

b. What facilities are in place for this implementation?

To answer this, interviews were conducted with 11 stakeholders from 11 different institutions from the Peshawar district, KPK.

7.3.5. Technology in classrooms

To answer the research question and its sub-questions, it was important to know how much technology is available and being used in the classrooms in Pakistan at the moment. However, first we need to understand what was considered as technology in Pakistani classrooms; it was found (chapter 5) that availability of internet, use of mobiles and laptops, computer laboratories, use of LMS and search engines like Google, smart white boards, projectors including plastic sheet (retro) projectors and LED TVs are considered technology in Pakistani context. The data proved that the provision of technology was not as scant as initially imagined (Bengali, 1999). Pakistan has improved much in this sector at the higher education level. Although it is still not obligatory from the government that all HE institutes provide technology to their students, nevertheless almost all of them have technology available in some form.

To begin with, the data showed that six out of eleven institutes included in this research provide reliable internet to staff and students. In addition, they also use projectors and laptops for classroom teachings. Use of search engines and mobile devices in classroom is nothing out of the ordinary. However, just to be clear on the fact that the provision of laptop from the university was mostly limited for the use of teachers and instructors. In Pakistani context, students mostly use their mobile devices in classrooms or bring their own laptops. Nevertheless, desktop computers are made available for students use on-campus.

The rest of the five institutes included in the data set had lesser accessibility to technology as compared to the other six. There are two conceivable reasons for these institutes not providing higher levels of technological facilities to the students; the first was that these institutes may be struggling due to lack of funding, which can limit their ability in so many ways. Secondly, they may not be interested to provide more as in their minds whatever they have might be enough for their needs as provision for them is not based on any research. A very important issue in Pakistan's context, as revealed by the data in chapter 5, which helps in understanding this predicament, was that not everything is based on research in Pakistan. Hence, moves towards or away from technology, either way, was not determined by solid facts, but mostly the result of stagnant attitudes of old and seasoned stakeholders.

Nevertheless, the provision of technology is not the only barrier in Pakistan; the data revealed the struggles due to fluctuation of electricity and regular blackouts that interfere with the use of technology in classrooms. Some institutes have the resources to tackle this issue but still it is considered a persistent barrier. In addition to this, minor issues mentioned were over-crowded classrooms and language impediments.

It was promising to find that one of the major issues previously in Pakistan was the slow speed of internet with busy lines making Pakistani internet traffic jam and create connectivity issues (Farid et al., 2015), but this was not reported as a major issue by the interviewees. The interview data revealed that this was only mentioned by two institutes to still be a concern but for the rest it was reassuring to find no one mentioned it. On the contrary, fast and high-speed internet provision was reported to be available and in use in most of the institutions.

7.3.6. Perceptions for ICT

The interview data suggest that perception for ICT may be categorised in two ways; people who use them and people who do not. To look at the ones using them, the teachers who are young include ICTs in their everyday teaching. They are motivated because they find it interesting and easy to use (Amina). They are 'tech savvy' as they are using technology in their personal lives, so they find it no different than their personal use (Zainab). Then the second type of users of ICTs in their teaching are those who have already used these technologies as students; they were taught with it abroad which has extended their horizon and they find the use of ICTs nothing out of the ordinary (Ezaz). This depicts that their years as the students have influence on them as the teachers. Hence, these perceptions towards the use of technology seems intrinsic to them. Then there are teachers who are using ICTs as they are compelled by their institution, and it is included in their job description to teach with the help of technology. As it was not the part of my research to find out the quality of the teachings with ICTs, it cannot be stated how well and how appropriate was the use of ICTs in their respective classrooms. Nevertheless, as for answering my research question, teachers required to use ICTs as part of their teachings were using obligatory ICTs in classrooms.

The second category are the ones who do not use ICTs. These are the people, as mentioned in the data, who are of mature age. They do not use technology as part of their everyday lives so when it comes to technology in classrooms, they simply do not use it (Nasir). Then there are teachers who are not aware of how to use it. These are the ones which were educated within Pakistan and as there was no technology previously in classrooms, they were not aware of its use in teaching-learning processes. And as for now, they are not updated enough in their teachings (Ibrahim).

Thus, to understand it more clearly, there are those who use them as they want to, or they know how and/or they are compelled by their jobs, and they have learned to do so. Next, there are those who do not use them as they do not want to and those who do not know how to. It is quite clear that in the last two decades the attitudes are changing and there is progress. The support is being provided to those who require but the progress is slow. The data suggest that it is believed that the Government needs to work gradually towards this implementation. It was also suggested that it is a slow and gradual implementation, and rapid or sudden adaption should not work in meeting its needs (Hamza).

However, it is important to understand that when it comes to the perceptions towards the use of ICTs in classrooms, the Government policies matter only to an extent. As suggested by data, teachers will use it if they are required to, but depending on their level of competencies it might have different effects on the teaching-learning process. Hence, to motivate them, the policies need to provide a framework of support and reward culture at institutional level, which in turn will increase competencies, perceptions and subsequently motivation towards ICTs . It will also project a positive sense towards its implementation.

7.3.7. The Pakistani Government's education policies, and power dynamics

The Education Policy 2017 suggests that its predecessor was not successful in its implementation. It declares the main reason for its failure was the timing of the 18th amendment, which was done in 2010. As discussed in the chapter 'Literature Review', the 18th amendment was the change in Pakistan's constitution. As per the name, few changes were introduced to the constitution including article 25(a) "under which free and compulsory education of all the children aged 5-16 (up to matric) became a

fundamental right and the state responsibility" (NEP, 2017, p 4). According to NEP 2017, this amendment replaced the previously adopted development frameworks, i.e., Education For All and Millennium Development Goals by the UN's Sustainable Development Goals, which were in fact the basis of NEP 2009. Hence, it declares that "after the 18th amendment implementation of NEP 2009 was virtually stopped" (ibid). In addition, it was stated that none of the provincial or federating units had come up with their own policy plans resulting in a big 'vacuum' gap in the education policy area.

In the introduction chapter of the NEP 2017, it is stated that since NEP 2009 was unsuccessful, the next policy was formulated with a wider, more diverse agenda, "Global competition demands human capital that is creative, constructive and contributing to individual and collective wellbeing" (ibid). Hence, when bridging the gap, the selected policy provisions introduced the use of ICT. As presented in chapter 4, the integration of ICT was acknowledged in NEP 2017 as significant to the time and was helping to strengthen the education system. The policy believes the need to 'harness' the power of ICTs at all education levels (p 92). However, the interview data suggest that not everyone believed the hegemonies at institutional level, hence the realities were different. According to the data, there are three categories of institutions in Pakistan in terms of acceptance and adaptation of education policies, in general and ICTs specifically. These categories formed under the influence of different dynamics related to power dissemination and agency. It was found that more the agency of the institution the more resistance to power it showed. These were inequality, bias, and power resistance which in the reality of the context turned into the three types of institutions discussed. The first type is those which are completely onboard with government in all aspects of their offered educational sectors. These institutes follow and implement the policies as per Government's directive. They introduce them to their institutes, providing full awareness and guiding on its implementation. Six out of eleven institutes included in this research were informed 'through proper channel' (a phrase used in Pakistan exampling something done in official way). Analysing the data revealed that these types of institutes have different levels of meetings through which they ensure that certain guidelines as provided by the HEC, are followed correctly. The analysis shows another way of accepting these government policies; the institutes receiving them and then under the strict influence of these guidelines, making their own policies, which cater more to their

own specific needs. The general view in these institutes is that the government policies are the outlines, and it is the institutes' responsibility how they want to consider detail inside these outlines, and as long as they stay inside, they are considered to be following the policy, and I previously referred to it as the spectrum and the theory of diffusion of innovation explaining it in chapter 2, is category within the category. Nevertheless, in terms of the data, the inequality of in the policy dissemination process revealed these institutions to have been provided more than others, and thus creating inequality. Just to be clear, these six institutes were two private, two government and two autonomous.

The second type of institutes were the ones which introduced the policies within their institutions but due to institutional bias decided against its use. Only one private institute in this study was of this type. This private institute was informed of the Government's policy; however, they believed that their own policy was better suited to their students' needs. There are two important points to be discussed here; firstly, the Government have less hold on the methods in which the private institutions are run. It is common knowledge that the private institutions have their own governing bodies and policy makers. Secondly, there seems to be an excellent probability that the private institute are more informed about their students' needs and it appears to be rather true that they are more genuinely aware on how to cater to the needs of their students. Hence, there is ground for the institutional bias for the private institute seeking to utilise their own policies.

The last type of institutes seems not to bother with the Government's policies altogether and showed complete power resistance. The analysis revealed that these neither introduce nor use any policies as recommended by the Government, instead held complete agency. There were four institutes in this category; one government, one autonomous and two private institutes chose not to relate to these policies. These institutes create asymmetrical power resistance and follow their own polices. Although following the points related in the previous category, it was understandable to see private institutes in this group; however, it was quite surprising to find an autonomous and even a government institution to choose not to share and adhere to these policies. Both the autonomous and the government institutions rely on government for finances, and presumably this implies somewhat of a hold on these institutions. Nevertheless, my research deals with the institutions and their connection to the Government education

policy regarding ICT implementation, so to discuss why and how the autonomous and government institutions do not use these policies is not relative to my work and seems rather interesting research to explore further on its own.

Although the above discussion is true to its analysis, there is but one thing to add to findings on this front. There was no accountability found at any level of policy enforcement. Both the policy documents failed to attribute power towards the issue of execution of government policies and thus in reality seems to be responsible for this situation.

7.3.8. Policy enforcement

The interview data suggested that the stakeholders find the Government's policies not reinforced. It was a summative assumption from the interviewees that too much was left to institutional discretion, which caused a lack of uniformity for the implementation. As accurately expressed by one of the interviewees, Pakistan's Government lack monitoring and micro planning for ICT implementation, which results in a gap between the government and private institutions. The analysis revealed a voiced concern over this gap in these two educational sectors which links to the neo-liberalism of KBE.

A research study conducted on e-learning implementation strategies for an ICT-challenged environment in the University of Ghana (Awidi, 2013) argued that successful e-learning is based on an institution's capacity. The study investigated effectiveness mobilising the available resources for coordinating and managing skills and competencies. Somewhat the same sentiments were expressed by an interviewee in my research that Government does not measure at an institutional level to understand the capacity for implementation. It was suggested that the Government lacks the vision and information of the strengths of the universities and in the approach of an institution. It was indicated that the implementation focuses on just one aspect, i.e., technology; the stakeholders and institutional capacity were rather neglected. However, Awidi's research (2013) identified three domains, i.e., institutions, people and technology that any policy implementation needs to focus on. Thus, when Pakistan's policies emphasise on only the technology aspect for the implementation, then the process falls short.

The data analysis showed that stakeholders felt let down by the uneven distribution of the resources, the inequality, and felt this gap between the budget allocation inflates to become a gap in their respective delivery. The private institutions have their own infrastructure for generating funds; nevertheless, they believed that they do not get as much support and consideration from the Government as do the government-led institutes. On the other hand, it was analysed that the government institutions believed some government institutions are given financial preference over the others, creating bias. The analysis also brought to light the issue of embezzlement of funds. It was revealed that government institutions have an understanding amongst them and the authorities at these institutions lend and borrow equipment of ICTs when HEC teams visit to audit. The concern raised was that this equipment was the property of institutions, but only on paper, while in reality these are for showcasing for authorities rather than for the use of students. The disappointing issue analysed was that from eleven institutions included in my research, two institutions were reported to be part of this corruption; this shows a high ratio by comparison. The sad reality is the number may be higher, but it cannot be quantified unless others with the same issue find the courage to come forward as well. However, a 'whistle blowing' culture does not exist in Pakistan and institutions are more in line with maintaining a quid pro quo. Even the interviewees in my research requested to stay anonymous and requested their institutions not to be named, depicting the pressures they felt.

7.4. Conclusion

The research, as discussed previously, is crucial to development in any field and the feedback it may provide is deemed to be extremely valuable as the feedback on progress is linked to the *actual* realities of implementation. Regarding the policy, the data suggest a summative assumption that the NEP was viewed as guidelines. The guidelines which are not well enforced in different institutions. The view was that the policy documents are left for open interpretation, which leaves too much at the discretion of the institutes. This puts the Government in a weaker position and there is a clear need to provide support for the implementations and interpretation of policy. In other words, the power-resistance at the institutional level for the power-dominance of policies of Government which in turn were executing inequality in the socio-political context. Due to this unequal power relations between policy texts and

participating individuals, poor implementations of NEPs regarding ICTs were the outcomes. It is important to mention here that findings revealed the whole power dynamics within the context, and the analysis through CDA helped bring out those essences which would not have been possible with any other methodology. To fill the gap between the policy and its implementation and improve the previous education policies, a plan of implementation is regarded as essential, which will fill in the gap between the policy and its implementation by moving from the what to the how. The next chapter discusses the recommendations of an 'Implementation Plan' for technology in Pakistan.

Chapter 8: Conclusion

8.1. Introduction

This study was conducted to fill the gap in the literature by exploring the context of Higher Education in Pakistan and finding the place of ICTs, for which two sets of data, NEP 2009 and 2017, and interviews from the stakeholders, was collected, analysed and findings articulated.

This chapter is based on the analysis and findings of two education policies of Pakistan, 2009 and 2017, and their shortcomings. The objective is to give recommendations based on the review of these policies and the analysis of interviews. Linking to the discussion in the previous chapter, the aim is to provide a *plan*; a suggestive way forward which is perceived to help the implementation of ICTs in Pakistan in a pragmatic way. The chapter also presents the limitations of my study to shed light on the factual standing of this research. The chapter ends with the reflection on the research process.

8.2. Implementation strategy for ICT

As discussed in the previous chapter, both the education policies of 2009 and 2017 were unable to achieve their respective anticipated goals. In addition, the interview data suggested that this lack of achievement was mainly due to two reasons, one resulting from the other; the policies were not clear about their implementation strategies, and hence, the institutes were not completely sure about how to implement the policies. Nevertheless, it is important to mention here that policy-related educational research (Aziz, 2020; Farrell, 2007; Khaparde, 2002) has long argued that policies are never fully implemented, and my research has filled the gap in confirming this fact for the KPK province in Pakistan, affirming that the situation here is the same.

It is concluded that there is a step missing in the implementation process; a gap in-between policy guidelines and implementation is *an implementation strategy*. The situation requires this gap between suggestion and implementation to be filled in with a tactical approach for the execution of policies to achieve expected outcomes with a plan of implementation.

Implementation is a complex procedure, not a direct translation from government policy to practice (Younie, 2006, p 385). Mthethwa (2012) reports that the policies which are best are those that determine guidelines for governing the service delivery if they may encounter implementation challenges. As presented in the literature review chapter 2, different countries of the world have had different experiences with ICT implementation in their respective contexts. To discuss individual cases from the chapter, Kenya implemented the ICTs by involving a few agencies according to their strategic implementation plan. Under the Government watch, these agencies harmonised the policy interpretation to determine a coherent structure. Thus, equipped with that structure, the implementation was monitored at grass-root level, in the institutions with the stakeholders. Although there was criticism of the project, revealing that even after the inflated expenditure the results were not overwhelmingly satisfying and problems still existed, enhanced efficacy was not achieved.

The overall objective is to seamlessly integrate ICTs in education for administration, management and in teaching and learning at all levels through adequately informed policy formulation. Hence, the implementation is perceived to be a non-linear process; in fact, it is thought to be an action continuum of revisioning the data for improvements and growth in a spiral for development. As informed in chapter one, Pakistan publishes an education policy at least once every decade; hence, the action continuum of implementation suits its path; they can be visited at least, if not more than, five times before the publication of the next ICTs policy. This will help to strengthen all the weaker areas in policy implementation and help bring out the best possible implementable policy.

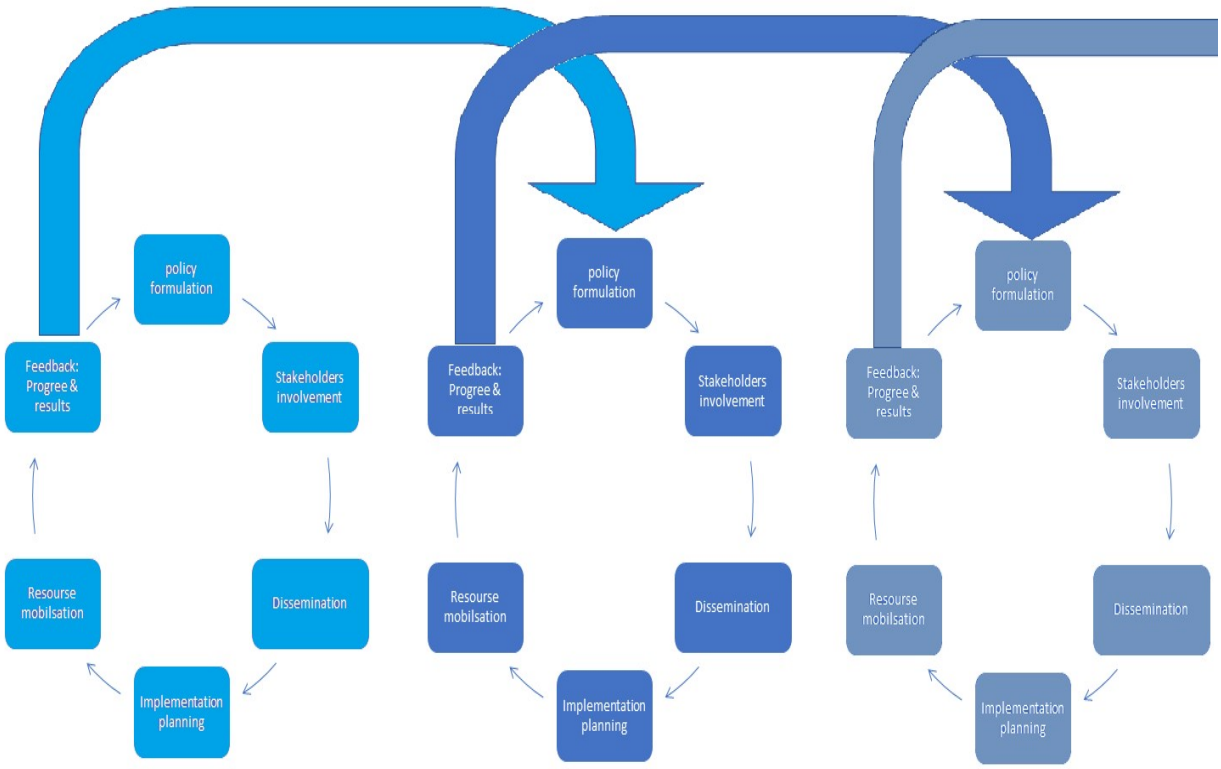

Figure 8.1 Suggested Action continuum of implementation

Informed by the findings of my research, an action continuum of implementation is proposed as a plan (see Figure 7.1). It takes some elements from the proposed policy implementation tools for assessment by Bhuyan et al. (2010). The action continuum comprises of six dimensions that can influence the policy implementation and suggestively bring out improved results.

The starting point is the formulation of ICTs policy itself and for it every aspect from both the policy documents, 2009 and 2017 were read and analysed. The formulation process is important in reference to later dimensions, as the analysed policies in this research are concerned with just Pakistan Government's national education policies and not ICTs policy. As a reminder here, Pakistan has no ICTs policy for education, published on its own till date. Therefore, after including ICTs as mere chapters in previous educational policies and acknowledging its importance for the future development of education in Pakistan in the last one, i.e. 2017, it seems to be the right time for the Government of Pakistan to formulate an ICTs policy to be used in the education sector, as implementation is a

challenging process on its own, and even more so in the absence of written guidance and a clear action plan (Mthethwa, 2012). It is presumed that once ICT will have its own strategy in the form of policy to be adapted in the education sector, it will generate the required amount of importance, time, funding, and weightage as any other division in the education sector. Mthethwa (2012, p 40) suggests that "Policy formulation is the part of the process during which proposed actions are articulated, debated, and drafted into language for a law or other policy statements." So, the formulation of ICTs policy will have all these areas examined and utilised, keeping just ICTs in mind. To point to the action continuum of implementation, it is important to be understood that this suggested formulation is not the same as the National Education Policies of Pakistan of 2009, and 2017, analysed in chapters 4 and 5 respectively. As discussed in chapter 6, both these policies were more in line with generic guidelines than offering paths towards achievable objectives and goals. On the contrary, this suggested formulation of ICTs policy will articulate the relevant activities as indicators by which the goals and objectives of implementation of ICTs will be achieved and be measurable (ibid).

In the action continuum of implementation, stakeholders' involvement is very valuable for sustainability of implementation efforts. As reported in chapter 4, the analysis of both the education policies revealed a lack of stakeholders' involvement, creating the absence of specific recipients. In chapter 5, the interview data suggested that the interviewees, who were the decision makers in the implementation process of the ICTs in their respective institutes, felt let down. They expressed the concern that they were not consulted in the process, which according to them, would have ensured smoother implementation. Hence, the second dimension of the suggested action continuum of implementation lays emphasis on the involvement of the stakeholders in the process of the formulation of the ICTs policy. This dimension stems both ways; it roots from the formulation of ICTs policy as the stakeholders need to be involved in relation to the process, and it extends its branches to the dissemination dimension as well. So, it is suggested that the policy makers need to liaise with the stakeholders when formulating the policy (Bengali, 1999), which will give them enriching and valuable insight for the formulation of an implementable policy with potentially more secure outcomes.

The dissemination process is also very crucial and should be consulted with the stakeholders. As the data presented in chapter 5 reveals, the interviewees came to know about the national education policies through their respective institutions in different manners; from just the provision of knowledge that there is a policy set by government to strongly following it, the dissemination was considered weak and unequal across the horizon. The policies were introduced as guidelines, and they were not emphasised and there were no official follow-ups. Therefore, it is suggested that if the stakeholders are involved in the dissemination process of the policy they will have helped to formulate, they will have a better idea of how to implement and utilise this policy into their everyday teaching and classrooms. It also arises from the fact that when they are helping to formulate the policy of ICT, the stakeholders have a greater grasp of the grassroot realities within the institutions. Hence, the formulation process will be based upon the realities rather than inflated assumptions of policymakers.

The most elaborate dimension is the need of implementation planning. Mthethwa (2012, p 42) believes that "strong strategic action plans, work plans, budgets, and operational directives are often the missing links between policy formulation and actual implementation." Thus, implementation need suitable planning. The aspect comprises of three suggested phases. The first is to get acquainted with pedagogical content knowledge of ICT (Mishra & Koehler, 2006) by conducting research. This is the aspect mentioned in chapter 6, which is overlooked the most. The research on the matter will provide a clear picture for the implementation of ICTs. As the follow up, the second layer suggested is to help increase ICT professional capabilities. This will extend and overcome shortcomings in the pedagogical content knowledge of ICTs. It will also help to assess the position of teachers in the classroom and help decide about the needs for the provision of training, its nature and levels of its requirement. This will level the ground for the third and final layer - creating a common infrastructure for ICTs implementation. A common infrastructure is deemed to very crucial in Pakistan's context as previously discussed in chapter 2; Pakistan lacks in facilities and funding in education. Hence, creating a common infrastructure will save time and resources which can be used elsewhere. When developing this action continuum, it was interesting to find that these layers for implementation planning could help the implementation in an additional way as well; as there are three layers suggested, it is expected that these

will take some time to deploy. Therefore, this time on implementation planning and taking one-by-one the phases, these may be utilised in a way proposed by the interviewees in chapter 5, "*policy needs to be gradually implemented as the slow progression"* will benefit the process. Furthermore, the suggested common infrastructure may lead to a goal the governments of Kenya and Libya (chapter 2) aimed to achieve, *digital by default*. Nevertheless, keeping Pakistan's context in mind is a very ambitious goal to be aiming at; however, that is the future directive most of the developing countries are looking to achieve, and aiming for it will set Pakistan on the improved implementation path as well.

Another dimension which is stemming from planning is the resources; nothing will be possible without appropriate funding. A point of discussion on this dimension is that it can easily be submerged in the implementation planning; however, my reason for bringing it out is two-fold, influenced by the data analysis in chapter 5, which revealed some reports about embezzlement. Hence, the funding from Government should stem from an implementation phase, as it will be decided in the implementation phase what kind of funding and resources might be required and will be awarded. The suggested dimension is not only referring to the institutes' own fund allocations towards ICTs but also to maintaining a committee to monitor the above-mentioned embezzlement issue. This will need to be reported and documented, which is proposed to be presented to Government, taking forward to the final stage of the action continuum.

The last stage is the feedback on the progress, results on how it went, learning from mistakes to begin the second spiral of the action continuum, and then the next, and so on and so forth until the next policy is published. The feedback is a most important dimension in the action continuum as it will assess the policy implementation, collecting the views from all phases and setting out the path for the next spiral of action continuum, based on the progress of the last one. Bhuyan et al. (2010) believe that feedback promotes accountability, enhances effectiveness by addressing barriers, and establishes minimum standards for quality. Thus, feedback breathes new life into the whole continuum, giving it fuel for the spiral to run its course again.

8.3. Limitations of the study

Like any research, this research faced limitations as well. Even though these did not hinder the course of the research, nonetheless, acknowledging them strengthens the credibility of my work.

The scope of the study was limited to one region of a province of Pakistan, i.e., the Peshawar region of KPK province. So, even if the findings are true for the Peshawar region, contextual factors should be considered when this work is applied in other regions of Pakistan, or in other under-developed countries/regions. Hence, the future directive will be to do research with a bigger scope.

The study was limited to my capacity of being a novice researcher in policy implementation, as I was an outsider with external view. As presented in chapter one, my research aimed to fill the gap in the literature as till date there have been no research in relation to Government ICTs policy implementation. However, the extent of my interpretations might only be valid if considered as an outsider's understanding. Hence, more research from policy makers and stakeholder may be able to provide a broader viewpoint.

It was very difficult to get samples for the research as a limitation specific to perhaps Pakistan's context is unwillingness, not wanting to be included in research. To get the data for my research, it was difficult to engage people to give me interviews as they did not want to be part of any research. I perceive two reasons for this. The first is that there is no research culture in Pakistan, so even educated people do not take it seriously enough. Secondly, as suggested by a few possible participants, no one believed anything will happen due to this research, so they thought of this as a waste of their time.

8.4. My contribution to research knowledge

This research was to fill in the gap, more specifically to look at Government's policies for the integration of technology in a developing country like Pakistan. As previously stated, this was an under-researched area. My research confirmed what policy studies have discussed that policies are not implemented as the way they are intended. Nevertheless, my research brought forth some interesting points which are just contextually true for Pakistan; it found that there is no ICTs policy for integration of ICTs in

Pakistan till now, which is quite unfortunate. Still so, another disappointment was that the ICTs integration in NEPs is not taken seriously enough. My research also found that teacher feel inadequately equipped when it comes to ICTs.

However, all is not bleak; the study found that institutions are using their own policies for integrations of ICTs. In addition, the Government of Pakistan is planning for the future and although it is more in trial-and-error phase, nevertheless is promising. Therefore, I intend to send the findings of my study to the education policy development department of Pakistan which, as previously mentioned in chapter 1, is seeking research in different fields of education to help the government shape the future of education, to provide evidence-based suggestions. In addition, I also intend to propose the framework in chapter 7, the *suggested action continuum of implementation,* to the government adviceline for education policy formulation 2021/22, to influence the policy implementation in classroom and suggestively bring out improved results.

This study established a foundation for the research in genres like technology related government education policy, integration of technology, and technology in classrooms. Hence, it is anticipated that this will support the future research in these fields.

8.5. Implications of this research

Theory and research: CDA as suggested by Fairclough (2001) deals with power relations: dominance and resistance. To elaborate, he believes that situations are shaped by power dynamics and the power in the discourse is how its situation affect power asymmetry (Fairclough, 1989) was proven by the difference of hegemonic ideology of the data sets in this research. In addition, this research demonstrated that although the Education Policies are dominant in nature with power in their discourse to be naturally assumed as a feature of their type, nevertheless, the NEPs seemed somewhat powerless. This relates to the absences of specific recipient making discourse asymmetrical in power.

Practice: The findings of this study revealed the on-ground realities were different from expected outcomes for ICTs implementation in Pakistan. The data from the interviews found power resistance from the stake-holders for the policy implementations, exposing the contradictions of expectation vs reality in the education sector. This finding unearthed new depths in the gap in the ICTs implementation in the education system, requiring very concentrated and stringent research to bridge the gap in the policy and the practises.

Policy: Pakistan Government previously requested the public and private universities to send their research regarding ICTs place and formulation of new policy for Pakistan's education system and I intend to send to be included in the policy making. This study, ambitiously, is believed to be a starting point towards ICTs Policy in Education sector of Pakistan.

8.6. My reflections as a researcher

When I started this research, it seemed quite straightforward. I had it all lined up in my mind and even on paper. But as I started to work, I noticed that it was more complicated than I thought. My research questions developed considerably from their initial form and got more interesting and, more importantly, intriguing. The process of actual data collection came later because I indulged in reading for the research. The literature, although there was not much available on Pakistan, but there was on some other countries in the same situation as Pakistan, which informed and steered my research direction towards identifying key elements and features that were to be worth exploring in my research. However, this was no straightforward either, but guidance from my supervisor helped me to move along. My personal journey was far more enriching than shaping of this thesis. I learned to formulate interviews and connect results to the literature and my RQs, and to analyse and synthesise the findings, coding the data, and finding my way through the literature. In the end, the most promising achievement was how this all came together. In the end, I hope that this will have some influence in helping shape the future.

Keeping in mind that when this thesis was being completed the Covid-19 pandemic had struck the world, it changed the teaching-learning processes throughout the world and technology became a necessity. It changed the attitudes in Pakistan as well, and given the circumstances, every educational institute tried to get help from technology to carry on their teachings. Because of this, it is expected that in the upcoming Education Policy, technology will be given considerably more weightage than its predecessors.

Word count: 55004

References

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Abbas, A., Faiz, A., Fatima, A., & Avdic, A. (2017, June). Reasons for the failure of government IT projects in Pakistan: A contemporary study. In *2017 International Conference on Service Systems and Service Management* (pp. 1-6). IEEE.

Abukhattala, I. (2016). The use of technology in language classrooms in Libya. *International Journal of Social Science and Humanity*, *6*(4), 262-267.

Adzharuddin, N. A., & Ling, L. H. (2013). Learning management system (LMS) among university students: Does it work. *International Journal of e-Education, e-Business, e-Management and e-Learning*, *3*(3), 248-252.

Ahmed, S. I. (2011). Issue of medium of instruction in Pakistan. International journal of social sciences and education, 1(1), 66-82.

Ahmad, I. (2014). Critical Analysis of the Problems of Education in Pakistan: Possible Solutions. *International Journal of Evaluation and Research in Education*, *3*(2), 79-84.

Ahmad, I., Ali, A., Khan, I., & Khan, F. A. (2014). Critical Analysis of the Problems of Education in Pakistan: Possible Solutions. *International Journal of Evaluation and Research in Education*, *3*(2), 79-84.

Ahmad, I., ur Rehman, S., Ali, S. I. S., Ali, F., & Badshah, R. (2013). Problems of government secondary school system in Pakistan: Critical analysis of literature and finding a way forward. *International journal of academic research in business and social sciences*, *3*(2), 85.

Ali, S. (2006). Why does policy fail? Understanding the problems of policy implementation in Pakistan-a neuro-cognitive perspective. *International Studies in Educational Administration*, *34*(1).

Allen, D. W. (2003). The effects of technology on educational theory and practice: A 20-year perspective. *Computers in the Schools*, *20*(1-2), 49-57.

Almigheerbi, T. S., Ramsey, D. M., & Lamek, A. (2019, September). Evaluation of the Performance of Information Systems Implemented at the University of Tripoli, Libya. In *KMIS* (pp. 203-211).

Andrabi, T., Das, J., Khwaja, A. I., & Zajonc, T. (2005). Religious school enrollment in Pakistan: A look at the data. The World Bank.

Anderson, K. T., & Holloway, J. (2020). Discourse analysis as theory, method, and epistemology in studies of education policy. *Journal of Education Policy*, *35*(2), 188-221.

Andrews, M. (1995). Against Good Advice: Reflections on conducting research in a country where you don't speak the language. *The Oral History Review*, *22*(2), 75-86.

Al-Ghazali, F. (2007). Critical discourse analysis: How can awareness of CDA influence teaching techniques?.

Apple, M. W. (2017). What is present and absent in critical analyses of neoliberalism in education. *Peabody Journal of Education*, *92*(1), 148-153.

Apthorpe, R. (1997). Writing development policy and policy analysis plain or clear. *Anthropology of Policy: Perspectives on Governance and Power*, *34*.

Arribas-Ayllon, M., & Walkerdine, V. (2008). Foucauldian discourse analysis. The Sage handbook of qualitative research in psychology, 91-108.

Awidi, I. T. (2013). E-learning implementation strategies for an ICT-challenged environment: case of the University of Ghana, Legon.

Aziz, A. (2020). Digital inclusion challenges in Bangladesh: The case of the National ICTs policy. *Contemporary South Asia*, *28*(3), 304-319.

B

Bano, S., & Taylor, J. (2015). Universities and the knowledge-based economy: Perceptions from a developing country. *Higher Education Research & Development*, *34*(2), 242-255.

Bariu, T., Chun, X., & Boudouaia, A. (2022). Influence of Teachers' Competencies on ICT Implementation in Kenyan Universities. *Education Research International*, *2022*.

Bairagi, A. K., Rajon, S. A., & Roy, T. (2011). Status and role of ICT in educational institution to build digital society in Bangladesh: Perspective of a divisional city, Khulna. *International Journal of Advances in Engineering & Technology*, *1*(4), 374.

Bengali, K. (1999). History of educational policy making and planning in Pakistan. Islamabad: Sustainable Development Policy Institute.

Betzel, A. (2013). A discursive analysis of education policy documentation under the Conservative Liberal Government in England (Doctoral dissertation, Institute of Education, University of London).

Bhatt, I., de Roock, R., & Adams, J. (2015). Diving deep into digital literacy: emerging methods for research. *Language and Education*, *29*(6), 477-492.

Bhuyan, A., Jorgensen, A., & Sharma, S. (2010). Taking the pulse of policy: the policy implementation assessment tool. *Health Policy Initiative*, 50.

Blood, P. (1994). "Pakistan Education." Pakistan: A Country Study. *GPO for the Library of Congress.* Retrieved from http://countrystudies.us/pakistan/42.htm.

Blommaert, J., & Bulcaen, C. (2000). Critical discourse analysis. *Annual review of Anthropology*, *29*(1), 447-466.

Boda, P. A. (2019). Investigating Power and Agency in Singular Diversity-Requirement Education Courses. *Critical Education*, *10*(15).

Bond, M., & Bedenlier, S. (2019). Facilitating Student Engagement through Educational Technology: Towards a Conceptual Framework. *Journal of Interactive Media in Education*, *2019*(1).

Brown, P., & Lauder, H. (2006). Globalisation, knowledge and the myth of the magnet economy. *Globalisation, Societies and Education*, *4*(1), 25-57.

Brooke, M. (2013). A critical analysis of selected policy making decisions in the US and the UK with regard to the implementation of Information and Communication Technology (ICT) in National State Primary and Secondary School Education Systems. *Open Journal of Modern Linguistics*, *3*(01), 94.

Boyle, A. P., Bryon, D. N., & Paul, C. R. C. (1997). Computer-based learning and assessment: A palaeontological case study with outcomes and implications. *Computers & Geosciences*, *23*(5), 573-580.

Buchanan, J. (2008). Using Foucauldian critical discourse analysis as a methodology in marketing. ANZMAC.

Burgess, R. (1982). The Unstructured Interview as a Conversation. Dins de: Burgess, R.(ed). Field Research: a Sourcebook and Field Manual.

C

Charlebois, J. (2010). The discursive construction of hegemonic and pariah femininities in the spoken accounts of a group of Japanese women (Doctoral dissertation, Lancaster University).

Chatterjee, P., & Nath, A. (2015). The future ICT education in India—A pilot study on the vision of ubiquitous learning in higher education. In Information systems design and intelligent applications (pp. 599-609). Springer, New Delhi.

Chandio, S., Hussaini, N. N., HussainAbro, A., Solangi, Z. A., & Ahmed, A. (2019). An ICT Integration in Higher Education Institutes of Pakistan: A Critical Literature Review. *IJCSNS*, *19*(11), 17-20.

Cheung, A. C., & Wong, P. M. (2012). Factors affecting the implementation of curriculum reform in Hong Kong. *International Journal of Educational Management*.

Chimombo, M., & Roseberry, R. L. (2013). *The power of discourse: An introduction to discourse analysis*. Routledge.

Cibangu, S. K., & Hepworth, M. (2016). The uses of phenomenology and phenomenography: A critical review. *Library & Information Science Research*, *38*(2), 148-160.

Cooke, P., & Leydesdorff, L. (2006). Regional development in the knowledge-based economy: The construction of advantage. *The journal of technology Transfer*, *31*(1), 5-15.

Corbin, J., & Strauss, A. (2014). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Sage publications.

Cubukcuoglu, B. (2013). Factors enabling the use of technology in subject teaching. *International Journal of Education and Development Using ICT*, *9*(3).

D

Dahl, B. M., Andrews, T., & Clancy, A. (2014). Contradictory discourses of health promotion and disease prevention in the educational curriculum of Norwegian public health nursing: A critical discourse analysis. *Scandinavian journal of public health*, *42*(1), 32-37.

Davies, Phil (2004) The Magenta Book, London: Cabinet Office Strategy Unit.

Davids, G. (2009). Policy implementation capacity challenges: The case of Saldanha Bay Municipality. *Administratio Publica*, *17*(4) 215.

Dhital, H. (2018). Opportunities and challenges to use ICT in government school education of Nepal. *International Journal of Innovative Research in Computer and Communication Engineering*, *6*(4), 3215-3220.

DeGroff, A., & Cargo, M. (2009). Policy implementation: Implications for evaluation. *New Directions for Evaluation*, *2009*(124), 47-60.

Denzin, N. K., & Lincoln, Y. S. (1998). Entering the field of qualitative research.[Introduction]. *Strategies of qualitative inquiry*, 1-34.

Du Gay, P. (1996). Consumption and identity at work. Sage.

Du Plessis, P. (2014). Corruption in education–stealing the future. *Mediterranean Journal of Social Sciences*, *5*(23), 1308-1308.

E

Edley, N. (2001). Analysing masculinity: Interpretative repertoires, ideological dilemmas and subject positions. Discourse as data: A guide for analysis, 189-228.

Edwards, R., & Nicoll, K. (2001). Researching the rhetoric of lifelong learning. *Journal of education policy*, *16*(2), 103-112.

Elmahdi, I., Al-Hattami, A., & Fawzi, H. (2018). Using Technology for Formative Assessment to Improve Students' Learning. *Turkish Online Journal of Educational Technology-TOJET*, *17*(2), 182-188.

Escueta, M., Quan, V., Nickow, A. J., & Oreopoulos, P. (2017). Education technology: An evidence-based review.

Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E., & Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & education*, *59*(2), 423-435.

Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, *5*(1), 1-4.

F

Fairclough, N. (1989). Discourse and power. *Language and power. London: Longman*.

Fairclough, N. (1992). *Discourse and social change* (Vol. 10). Cambridge: Polity press.

Fairclough, N. (2001). The discourse of new labour: Critical discourse analysis. *Discourse as data: A guide for analysis*, *1*, 229-266.

Fairclough, N. (2003). Analysing Discourse and Text: Textual analysis for social research (London: Routledge).

Fairclough, N. (2004). Semiotic aspects of social transformation and learning. *An introduction to critical discourse analysis in education*, *2*, 25-236.

Fairclough, N., Mulderrig, J., & Wodak, R. (2011). Critical discourse analysis. Discourse studies: A multidisciplinary introduction, 357-378.

Fairclough, N., & Wodak, R. (1997). Critical discourse analysis. Discourse studies: A multidisciplinary introduction, 2, 258-284.

Farid, S., Ahmad, R., Niaz, I. A., Arif, M., Shamshirband, S., & Khattak, M. D. (2015). Identification and prioritization of critical issues for the promotion of e-learning in Pakistan. *Computers in Human Behavior*, *51*, 161-171.

Farrell, G. (2007). ICT in Education in Kenya. *Survey of ICT and education in Africa: Kenya Country Report.–April*.

Fossey, E., Harvey, C., McDermott, F., & Davidson, L. (2002). Understanding and evaluating qualitative research. *Australian & New Zealand Journal of Psychiatry*, *36*(6), 717-732.

Fowler, R. (1981) *Language in the News: Discourse and Ideology in the Press,* Routledge, London.

Frederickson, H. G., Smith, K. B., Larimer, C. W., & Licari, M. J. (2018). *The public administration theory primer*. Routledge.

G

Gautreau, C. (2011). Motivational factors affecting the integration of a learning management system by faculty. *Journal of Educators Online*, *8*(1), n1.

Garland, K., & Noyes, J. (2004). The effects of mandatory and optional use on students' ratings of a computer-based learning package. *British Journal of Educational Technology*, *35*(3), 263-273.

George, E. S. (2006). Positioning higher education for the knowledge-based economy. *Higher education*, *52*(4), 589-610.

Gee, J. P. (2004). *An introduction to discourse analysis: Theory and method*. routledge.

Godin, B. (2006). The knowledge-based economy: conceptual framework or buzzword?. *The Journal of technology transfer*, *31*(1), 17-30.

Goodison, T. A. (2001). The implementation of e-learning in higher education in the United Kingdom: The road ahead. *Higher Education in Europe*, *26*(2), 247-262.

Goziyah, G., Sunendar, D., & Rasyid, Y. (2018). A Meso-levels Critical Discourse Analysis of the Movie Rudy Habibie. *Theory and Practice in Language Studies*, *8*(11), 1559-1565.

Grazzi, M., & Vergara, S. (2012). ICT in developing countries: Are language barriers relevant? Evidence from Paraguay. *Information Economics and Policy*, *24*(2), 161-171.

Grbich, C. (2012). Qualitative data analysis: An introduction. *Qualitative Data Analysis*, 1-344.

Gul, S., Asif, M., Ahmad, S., Yasir, M., Majid, M., Malik, M. S. A., & Arshad, S. (2017). A survey on role of internet of things in education. *International Journal of Computer Science and Network Security*, *17*(5), 159-165.

H

Haddad, W. D., & Demsky, T. (1995). *Education Policy-Planning Process: An Applied Framework. Fundamentals of Educational Planning 51*. UNESCO, 7 Place de Fontenoy, 75700, Paris France.

Hallak, J., & Poisson, M. (2005). Ethics and corruption in education: an overview. *Journal of education for international development*, *1*(1), 1-3.

Hammersley, M. (2000). The relevance of qualitative research. *Oxford review of education*, *26*(3-4), 393-405.

Harris, R. G. (2001). The knowledge-based economy: intellectual origins and new economic perspectives. *International journal of management reviews*, *3*(1), 21-40.

Haworth, K. (2006). The dynamics of power and resistance in police interview discourse. *Discourse & society*, *17*(6), 739-759.

Henry, F., & Tator, C. (2002). Discourses of Domination. Toronto: University of Toronto Press.

Hinkel, E., & Fotos, S. (Eds.). (2001). New perspectives on grammar teaching in second language classrooms. Routledge.

Holmwood, J. (2014). From social rights to the market: Neoliberalism and the knowledge economy. *International Journal of Lifelong Education*, *33*(1), 62-76.

Horsbøl, A., & Lassen, I. (2012). Public engagement as a field of tension between bottom-up and top-down strategies: Critical Discourse Moments in an'Energy Town'. In *Citizen voices: performing public participation in science and environment communication*. Intellect.

Hur, J. W., Shannon, D., & Wolf, S. (2016). An investigation of relationships between internal and external factors affecting technology integration in classrooms. *Journal of Digital Learning in Teacher Education*, *32*(3), 105-114.

Hussain, S., Jote, A., & Sajid, S. (2015). Critical Discourse Analysis: Demystifying the Fuzziness. *The International Journal of Humanities and Social Studies*, *3*(10), 242-249.

I

Ingram, H., & Schneider, A. (1990). Improving implementation through framing smarter statutes. *Journal of public policy*, 67-88.

J

James, D. (2011). Fichte's Social and Political Philosophy: Property and Virtue (Modern European Philosophy). Cambridge: Cambridge University Press.

Janks, H. (1997). Critical discourse analysis as a research tool. *Discourse: studies in the cultural politics of education*, *18*(3), 329-342.

Jessop, B. (2005). Cultural political economy, the knowledge-based economy, and the state. *The technological economy*, 144-166.

Jegede, P. O. (2009). Age and ICT-related behaviours of higher education teachers in Nigeria. *Issues in Informing Science & Information Technology*, *6*.

Jørgensen, M. W., & Phillips, L. J. (2002). *Discourse analysis as theory and method*. Sage.

Jung, I. (2005). ICT-pedagogy integration in teacher training: Application cases worldwide. *Journal of Educational Technology & Society*, *8*(2), 94-101.

K

Kapborg, I., & Berterö, C. (2002). Using an interpreter in qualitative interviews: does it threaten validity?. *Nursing inquiry*, *9*(1), 52-56.

Karanja, D., Sang, A. K. A., & Ndirangu, M. (2018). Influence of Integration of ICT on human resource management in Kenyan public universities. *International Journal of Sustainability Management and Information Technologies*, *3*(6), 73.

Katz, D., Kronrod, A., Grinstein, A., & Nisan, U. (2018). Still waters run deep: Comparing assertive and suggestive language in water conservation campaigns. *Water*, *10*(3), 275.

Kashorda, M., & Waema, T. M. (2011). ICT indicators in higher education: Towards an e-readiness assessment model.

Kenan, T., Pislaru, C., & Elzawi, A. (2014). Trends and policy issues for the e-learning implementation in Libyan universities. *International Journal of Trade, Economics and Finance*, *5*(1), 105-109.

Kennewell, S., & Beauchamp, G. (2003, July). The influence of a technology-rich classroom environment on elementary teachers' pedagogy and children's learning. In *Proceedings of the international federation for information processing working group 3.5 open conference on Young children and learning technologies-Volume 34* (pp. 71-76).

Kerrigan, M. R., & Johnson, A. T. (2019). Qualitative approaches to policy research in education: Contesting the evidence-based, neoliberal regime. *American Behavioral Scientist*, *63*(3), 287-295.

Khan, A. H., & Mahmood, N. (1997). Education in Pakistan: Fifty Years of Neglect [with Comments]. The Pakistan development review, 647-667.

Khan, A. M., & Mirza, M. S. (2011). Implementation of Decentralization in Education in Pakistan: Framework, Status and the Way forward. *Journal of Research & Reflections in Education (JRRE)*, *5*(2).

Khan, A. Z., Khan, H. G. A., Siraj, A., & Hijazi, T. (2011). Importance of School based ICT Curriculum & Career Counseling in Pakistan. International Journal of Humanities and Social Science, 1(2), 61-67.

Khan, M. S. H., Hasan, M., & Clement, C. K. (2012). Barriers to the introduction of ICT into education in developing countries: The example of Bangladesh. *International Journal of instruction*, *5*(2).

Khaparde, M. S. (2002). Educational research in India: Policy and practice. *Educational Research for Policy and Practice*, *1*(1), 23-33.

Khattak, S. G. (2014). A comparative analysis of the elite–English-medium schools, state Urdu-medium schools, and Dini-madaris in Pakistan. International Journal of Multidisciplinary Comparative Studies, 1(1), 92-107.

Khokhar, A. J., & Javaid, S. (2016). Students and teachers perceptions of ICT use in classroom: pakistani classrooms. In The Asian Conference on Technology in the Classroom.

KhosraviNik, M. (2010). Actor descriptions, action attributions, and argumentation: Towards a systematization of CDA analytical categories in the representation of social groups. *Critical Discourse Studies*, *7*(1), 55-72.

Kibuku, R. N., Ochieng, D. O., & Wausi, A. N. (2020). E-Learnersâ€™ Challenges and Coping Strategies in Interactive and Collaborative e-Learning in Kenya. *Journal of Education and Training Studies*, *8*(11), 50-61.

Kithungu, R. M., Gakunga, D. K., & Nungu, M. (2020). Influence of ICT integration on content preparation by ICT and Non-ICT trained teachers in secondary schools in Machakos County, Kenya. *European Scientific Journal (Kocani)*, *16*(31). https://doi.org/10.19044/esj.2020.v16n31p187

Klein, K. J., & Knight, A. P. (2005). Innovation implementation: Overcoming the challenge. *Current directions in psychological science*, *14*(5), 243-246.

Kozma, R. B. (2008). Comparative analysis of policies for ICT in education. In International handbook of information technology in primary and secondary education (pp. 1083-1096). Springer, Boston, MA.

Kress, G. (1990). Critical discourse analysis. *Annual review of applied linguistics*, *11*, 84-99.

Kress, G. (2008). Writing in multimodal texts: A social semiotic account of designs for learning. *Written communication*, *25*(2), 166-195.

L

Lakes, R. D., & Carter, P. A. (2011). Neoliberalism and education: An introduction. *Educational Studies*, *47*(2), 107-110.

Laffey, J. (2004). Appropriation, mastery and resistance to technology in early childhood preservice teacher education. *Journal of research on technology in education*, *36*(4), 361-382.

Lawrence, J. E., & Tar, U. A. (2018). Factors that influence teachers' adoption and integration of ICT in teaching/learning process. *Educational Media International*, *55*(1), 79-105.

Lester, J. N., Lochmiller, C. R., & Gabriel, R. (2016). Locating and applying critical discourse analysis within education policy. education policy analysis archives, 24, 102.

Lincoln, Y. S. (1995). Emerging criteria for quality in qualitative and interpretive research. *Qualitative inquiry*, *1*(3), 275-289.

Li, Q., & Wu, H. (2019). A Critical Discourse Analysis of English News Discourse from the Perspective of Fairclough's Three-dimensional Model Based on News Reports of Chinese Anti-corruption in The New York Times Official Website. Journal of Chongqing Jiaotong University (Social Sciences Edition), (3), 19.

Liu, H., Lin, C. H., & Zhang, D. (2017). Pedagogical beliefs and attitudes toward information and communication technology: a survey of teachers of English as a foreign language in China. Computer Assisted Language Learning, 30(8), 745-765.

Lucke, A. (1996). Text and Discourse Analysis. New York: *American Educational Research Association*. 3-17.

M

MacVaugh, J., & Schiavone, F. (2010). Limits to the diffusion of innovation: A literature review and integrative model. *European journal of innovation management*.

Macdonnell, D. (1986). *Theories of Discourse,* Blackwell, Oxford.

Mahmood, K. (2010). Textbook evaluation in Pakistan: Issue of conformity to the national curriculum guidelines. Bulletin of Education and Research, 32(1).

Majoka, M. I., Fazal, S., & Khan, M. S. (2013). Implementation of Information and Communication Technologies (ICTs) in Education Course: A Case from Teacher Education Institutions in Pakistan. *Bulletin of Education and research*, *35*(2), 37-53.

Malen, B. (2006). Revisiting policy implementation as a political phenomenon. *New directions in education policy implementation*, 83-104.

Malik, A. (2002). World Bank. Constructing Knowledge Societies: New Challenges for Tertiary Education. *Pakistan Development Review*, *41*(2), 204-207.

Maltby, M. (2008). *Interpreting and translation policy in Uk asylum applications* (Doctoral dissertation, University of Manchester).

Marton, F., & Svensson, L. (1979). Conceptions of research in student learning. *Higher education*, *8*(4), 471-486.

Marton, F. (1981). Phenomenography—describing conceptions of the world around us. *Instructional science*, *10*(2), 177-200.

Marton, F. (1992). Phenomenography and "the art of teaching all things to all men''. *Qualitative studies in education*, *5*(3), 253-267.

Maruthavanan, M. (2020). A Study on the Awareness on New Education Policy (2019) among the Secondary School Teachers in Madurai District. *Shanlax International Journal of Education*, *8*(3), 67-71.

Maxwell, J. A. (2012). *Qualitative research design: An interactive approach*. Sage publications.

Mbarika, V. W., Kah, M., Samake, K., & Sumrall, J. G. (2007). Information technology access: Cybercafé diffusion in sub-Saharan Africa. *IEEE Technology and Society Magazine*, *26*(3), 49-56.

McKnight, K., O'Malley, K., Ruzic, R., Horsley, M. K., Franey, J. J., & Bassett, K. (2016). Teaching in a digital age: How educators use technology to improve student learning. *Journal of research on technology in education*, *48*(3), 194-211.

McGhee, R., & Kozma, R. (2007). New teacher and student roles in the technology-supported classroom.

McGuigan, N. (2020). *A phenomenographic study of students' perceptions of accounting* (Doctoral dissertation).

McGregor, S. L. (2010). Critical discourse analysis: A primer. In *Kappa Omicron Nu FORUM* (Vol. 15, No. 1, pp. 15-1).

Mills, S. (2004). *Discourse*. Taylor & Francis Group.

Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers college record*, *108*(6), 1017-1054.

Mohamad, A. G. M. M., Idrus, S. Z. S., & Ibrahim, A. A. E. A. (2018). The ICT-Induced on Behavioural of Lecturer and Society Change in Libya Universities. In *Journal of Physics: Conference Series* (Vol. 1019, No. 1, p. 012069). IOP Publishing.

Mogashoa, T. (2014). Understanding critical discourse analysis in qualitative research. *International Journal of Humanities Social Sciences and Education*, *1*(7), 104-113.

Mirzajani, H., Mahmud, R., Ayub, A. F. M., & Wong, S. L. (2016). Teachers' acceptance of ICT and its integration in the classroom. *Quality Assurance in Education*.

Mthethwa, R. M. (2012). Critical dimensions for policy implementation.

Mullet, D. R. (2018). A general critical discourse analysis framework for educational research. *Journal of Advanced Academics*, *29*(2), 116-142.

Mustafa, G. (2012). Education policy analysis report of Khyber Pakhtunkhwa. *Islamabad: United Nations Educational, Scientific and Cultural Organisation*.

N

Nakane, I. (2005). Negotiating silence and speech in the classroom.

O

Oldenburg, B., & Glanz, K. (2008). Diffusion of innovations. *Health behavior and health education: Theory, research, and practice*, *4*, 313-333.

Olssen*, M., & Peters, M. A. (2005). Neoliberalism, higher education and the knowledge economy: From the free market to knowledge capitalism. *Journal of education policy*, *20*(3), 313-345.

Owen, G. T. (2014). Qualitative methods in higher education policy analysis: Using interviews and document analysis. The qualitative report, 19(26), 1-19.

P

Pakistan, Ministry of the Interior, Education Division. (1947). Proceedings of The Pakistan Educational Conference.

Patrick, F. (2013). Neoliberalism, the knowledge economy, and the learner: Challenging the inevitability of the commodified self as an outcome of education. *International Scholarly Research Notices*, *2013*.

Paltridge, B. (2012). *Discourse analysis : An introduction*. Bloomsbury Publishing.

Peshkin, A. (1963). The shaping of secondary education in Pakistan. History of Education Quarterly, 3(1), 4-18.

Pfeffer, J., & Sutton, R. I. (2000). *The knowing-doing gap: How smart companies turn knowledge into action*. Harvard business press.

Pont, B. (2008). Making reform happen: Project framework and plans, Making Reform Happen, No. SG/MRH (2008) 1.

Price, L., & Kirkwood, A. (2008). Technology in the United Kingdom's higher education context.

R

Rehman, A., Jingdong, L., & Hussain, I. (2016). The province-wise literacy rate in Pakistan and its impact on the economy. *Pacific Science Review B: Humanities and Social Sciences*, *1*(3), 140-144.

Rhema, A., & Miliszewska, I. (2012). The potential of e-learning in assisting post-crisis countries in re-building their higher education systems: the case of Libya. *Issues in informing Science and information technology*, *9*, 149-160.

Rogers, R., Malancharuvil-Berkes, E., Mosley, M., Hui, D., & Joseph, G. O. G. (2005). Critical discourse analysis in education: A review of the literature. *Review of educational research*, *75*(3), 365-416.

Rizza, C. (2011). ICT and initial teacher education: National policies.

Rogers, R., Schaenen, I., Schott, C., O'Brien, K., Trigos-Carrillo, L., Starkey, K., & Chasteen, C. C. (2016). Critical discourse analysis in education: A review of the literature, 2004 to 2012. *Review of Educational Research*, *86*(4), 1192-1226.

Robinson, L. (2009). A summary of diffusion of innovations.

Roof, D. J. (2015). Problems of common interest: The shaping of education in Pakistan, 1970-2014. *Pakistan Journal of Commerce and Social Sciences (PJCSS)*, *9*(1), 35-51.

S

Salem, N., & Mohammadzadeh, B. (2018). A Study on the Integration of ICT by EFL Teachers in Libya. *Eurasia Journal of Mathematics, Science and Technology Education*, *14*(7), 2787-2801.

Schiffrin, D. (1994). Approaches to discourse. Oxford: Blackwell.

Serpa, S., & Ferreira, C. M. (2019). Micro, meso and macro levels of social analysis. *Int'l J. Soc. Sci. Stud.*, *7*, 120.

Selwyn, N. (2016). *Education and technology: Key issues and debates*. Bloomsbury Publishing.

SDG indicators. (n.d.). Retrieved October 16, 2022, from https://unstats.un.org/sdgs/report/2022/

Shiffman, R. N., Michel, G., Essaihi, A., & Thornquist, E. (2004). Bridging the guideline implementation gap: a systematic, document-centered approach to guideline implementation. *Journal of the American Medical Informatics Association*, *11*(5), 418-426.

Silverman, D. (2013). *Doing qualitative research: A practical handbook*. SAGE publications limited.

Sime, D., & Priestley, M. (2005). Student teachers' first reflections on ICT in classroom learning: implications for initial teacher education. *Journal of Computer Assisted Learning*, *21*(2), 130-143.

Siddique, W. (2016). Critical success factors affecting e-government policy implementation in Pakistan. *JeDEM-eJournal of eDemocracy and Open Government*, *8*(1), 102-126.

Sodhar, Z. U. A., & Rasool, S. (2013). Madarsa system of education in Pakistan: Challenges and issues. International Research Journal of Arts & Humanities (IRJAH), 41(41).

Sloan, A., & Bowe, B. (2014). Phenomenology and hermeneutic phenomenology: The philosophy, the methodologies, and using hermeneutic phenomenology to investigate lecturers' experiences of curriculum design. *Quality & Quantity*, *48*(3), 1291-1303.

Steiner, R., T. Nyaska, M. Jensen, and G. Karanja. "African Tertiary Institution Connectivity Survey (ATICS)." World Bank Institute.

Stenfors-Hayes, T., Hult, H., & Dahlgren, M. A. (2013). A phenomenographic approach to research in medical education. *Medical education*, *47*(3), 261-270.

Stevenson, I. (2013). Does technology have an impact on learning? A fuzzy set analysis of historical data on the role of digital repertoires in shaping the outcomes of classroom pedagogy. *Computers & Education*, *69*, 148-158.

Sultana, M., & Shahabul, H. M. (2018). The cause of low implementation of ICT in education sector considering higher education: A study on Bangladesh. *Canadian Social Science*, *14*(12), 67-73.

Sum, N. L., & Jessop, B. (2013). Competitiveness, the knowledge-based economy and higher education. *Journal of the Knowledge Economy*, *4*(1), 24-44.

Sural, I. (2018). Augmented Reality Experience: Initial Perceptions of Higher Education Students. *International Journal of Instruction*, *11*(4), 565-576.

Suryawanshi, K., & Narkhede, S. (2013). Evolution of green ICT implementation in education sector: A study of developed and developing country. *Int. J. Manage*, *4*(2), 91-98.

Suryadarma, D. (2012). How corruption diminishes the effectiveness of public spending on education in Indonesia. *Bulletin of Indonesian Economic Studies*, *48*(1), 85-100.

Svensson, L. (1997). Theoretical foundations of phenomenography. *Higher education research & development*, *16*(2), 159-171.

Švarc, J. (2006). Socio-political factors and the failure of innovation policy in Croatia as a country in transition. *Research Policy*, *35*(1), 144-159.

T

Talib, N., & Fitzgerald, R. (2016). Micro–meso–macro movements; a multi-level critical discourse analysis framework to examine metaphors and the value of truth in policy texts. *Critical Discourse Studies*, *13*(5), 531-547.

Taylor, S. (2004). Researching educational policy and change in 'new times': Using critical discourse analysis. *Journal of education policy*, *19*(4), 433-451.

Taylor, S., & Henry, M. (2003). Social justice in a global context: Education Queensland's 2010 strategy. *Int. J. Inclusive Education*, *7*(4), 337-355.

Titscher, S., Meyer, M., Wodak, R., & Vetter, E. (2000). *Methods of text and discourse analysis: In search of meaning*. Sage.

Toffler, A. (1990). Powershift: knowledge. *Wealth and Violence at the Edge of the 21st Century*.

Trowler, P. (2003). Education policy. Psychology Press.

Troyna, B. (1994). Critical social research and education policy. *British Journal of Educational Studies*, *42*(1), 70-84.

Tsay, C. H. H., Kofinas, A., & Luo, J. (2018). Enhancing student learning experience with technology-mediated gamification: An empirical study. *Computers & Education*, *121*, 1-17.

Tınmaz, H. (2004). *An assessment of preservice teachers' technology perception in relation to their subject area* (Master's thesis).

U

Ukpe, E. (2013). ICT in education: Catalyst for economic growth in Nigeria. *International Journal of Education and Research*, *1*(10), 155-167.

Ülker, D., & Yılmaz, Y. (2016). Learning management systems and comparison of open source learning management systems and proprietary learning management systems. *Journal of systems integration*, *7*(2), 18-24.

Unal, S., & Ozturk, I. H. (2012). Barriers to ITC integration into teachers' classroom practices: Lessons from a case study on social studies teachers in Turkey. *World Applied Sciences Journal*, *18*(7), 939-944.

Usmani, R. S. A., Saeed, A., & Tayyab, M. (2021). Role of ICT for community in education during COVID-19. In *ICT Solutions for Improving Smart Communities in Asia* (pp. 125-150). IGI Global.

Uzuner-Smith, S., & Englander, K. (2015). Exposing ideology within university policies: A critical discourse analysis of faculty hiring, promotion and remuneration practices. *Journal of Education Policy*, *30*(1), 62-85.

V

Van Dijk, T. A. (1993). Principles of critical discourse analysis. Discourse & Society, 4, 249- 283. doi:10.1177/0957926593004002006.

Van den Berg, H. (2003). Contradictions in interview discourse. *Analyzing race talk: Multidisciplinary approaches to the interview*, 119-138.

Viennet, R., & Pont, B. (2017). Education Policy Implementation: A Literature Review and Proposed Framework. OECD Education Working Papers, No. 162. *OECD Publishing*.

Vulliamy, G. (1990). How can qualitative research contribute to educational policy-making in developing countries?. *International Journal of Educational Development*, *10*(2-3), 151-156.

W

Wallimann, I., Tatsis, N. C., & Zito, G. V. (1977). On Max Weber's definition of power. The Australian and New Zealand Journal of Sociology, 13(3), 231-235.

Warwick, D. P. (1993). On methodological integration in social research. *Social research in developing countries: surveys and censuses in the Third World*, 275.

Welch, C., & Piekkari, R. (2006). Crossing Language Boundaries: Qualitative Interviewing in International Business. *Management International Review, 46*(4), 417-437.

Weiss, G., & Wodak, R. (Eds.). (2007). *Critical discourse analysis*. New York: Palgrave Macmillan.

White, S. (2007). Critical success factors for e-learning and institutional change—some organisational perspectives on campus-wide e-learning. *British Journal of Educational Technology*, *38*(5), 840-850.

Wodak, R. (2001). What CDA is about–a summary of its history, important concepts and its developments. *Methods of critical discourse analysis*, *1*, 1-13.

Wodak, R. (2002). Aspects of critical discourse analysis. *Zeitschrift für angewandte Linguistik*, *36*(10), 5-31.

Wodak, R. (2006). Mediation between discourse and society: Assessing cognitive approaches in CDA. Discourse studies, 8(1), 179-190.

Wodak, R., & Meyer, M. (2009). Methods for critical discourse analysis. London, England: Sage.

Winch, P. (1967). *The idea of a social science and its relation to philosophy*. London, UK: Routledge & Kegan Paul.

Wittgenstein, L. (1958). *Philosophical investigations* (2nd ed.). G. E. M. Anscombe, Trans. Oxford, UK: Basil Blackwell.

Y

Yeatman, A., & Bureaucrats, T. (1990). Femocrats: Essays on the contemporary Australian state.

Younie, S. (2006). Implementing government policy on ICT in education: Lessons learnt. *Education and Information technologies*, *11*(3), 385-400.

Z

Zahra, F., Gul, A., Iqbal, A., Ghafoor, T., & Ambreen, A. (2020). The Impact of Covid-19 on Rural Areas Students of Pakistan: Moderating Role of HEC Policy and Internet Service. *Asian Journal of Contemporary Education*, *4*(2), 69-79.