

**“Understanding the Nexus between Modern Tertiary
Education and Radicalisation: A Case Study of Pakistan”**



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ISLAMABAD

SEPTEMBER, 2018

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A thesis submitted in partial fulfillment of the requirements for the degree of

MS Peace and Conflict Studies

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Acknowledgements

First and foremost, I am thankful to my Creator Allah Almighty to have guided me throughout this work at every step and for every new thought which You setup in my mind to improve it. Indeed I could have done nothing without Your priceless help and guidance. Whosoever helped me throughout the course of my thesis, whether my parents or any other individual was Your will, so indeed none be worthy of praise but You.

I am profusely thankful to my beloved parents who raised me when I was not capable of walking and continued to support me throughout in every phase of my life.

I would also like to express sincere gratitude to my supervisor Dr. Muhammad Makki for his help, motivation, knowledge and cooperation throughout my thesis. Each time I got stuck in something, he came up with the solution. Without his help, I wouldn't have been able to complete my research. I appreciate his patience and invaluable guidance throughout the whole thesis.

Furthermore, I would also like to pay special thanks to Dr. Ahmad Waqas Waheed and Dr. Bakare Najimdeen for being on my thesis guidance and evaluation committee and for their tremendous support, cooperation and insightful comments.

Finally, I would like to express my gratitude to all the individuals who have rendered valuable assistance to my study.

Dedicated to my exceptional parents whose tremendous support and cooperation led me to this wonderful accomplishment?

ABSTRACT

Since its independence, Pakistan has been struggling to cope up with various multifaceted challenges. Predominantly, the education sector of Pakistan is lagging behind and has failed to yield quality education for youth. Past few years has witnessed a rapidly increasing involvement of highly educated youth (university graduates) in the extremist activities. This emerging trend of radicalisation among the young generation is an alarming phenomenon and needs to be tackled soon. Although the phenomenon of radicalisation is multifaceted; various scholars have underlined the “sort” of education as an important driver of radicalisation. The present research has explored the relationship between the sort of education and radicalisation in the context of Pakistan by employing the qualitative methodology which involves the semi-structured interviews of engineers, doctors and professors. Consequently; in the context of Pakistan, the research argues that as such there is no direct relationship between the education of an individual and the emergence of radical sentiments. The result of the research showed that besides education; there are various other background factors involved too like friends, family, social circle, personal reasons, ideological, economic and religious factors which influences the individual’s pathway to radicalisation. Additionally, the thesis argues that there is a need to humanise the education system in Pakistan that emboldens liberal, open-mindedness and critical thinking within graduates. Plus, there is a significant need to focus on producing the quality research work and the training of faculty members is necessary too.

Key Words: Critical Thinking, De-humanisation, Extremism, Humanisation, Pakistan, Radicalisation, Tertiary Education System.

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CHAPTER 1.

1. INTRODUCTION:

Pakistan is a country immersed in various socio-economic and political challenges which makes it vulnerable to radicalisation and extremism. Prevalence of intolerance towards others in the society is a matter of great concern (Shaukat, 2016; Ahmed, 2011; Pillalamarri, 2014). Various scholars have unfolded the phenomenon of ‘radicalisation’ from different perspectives in order to understand it as a pathway or a process leading towards terrorism (Piazza, 2011; Pels & de Ruyter, 2011; Zaidi, 2010). For instance, from socio-psychological perspective, radicalisation has been understood as a social process in which social identity plays a pivotal role in the self-tendency towards violence (Tajfel and Turner, 1973). Moreover, various studies have explicated socio-political grievances (McCauley & Moskalenko, 2008), horizontal inequalities (Malik, 2009; Murshed & Pavan, 2011; (Brwon, 2011), and politics of exclusion (Eatwell & Goodwin, 2010), unequal distribution of resources (Zaidi, 2010) and certain religio-political ideologies; as factors inducing radicalisation thus leading towards terrorism.

In particular, scholars have paid significant attention to unfold the relationship between poverty, underdevelopment and terrorism. Or in other words, underdevelopment or overall poor economic indicators may lead to the manifestation of terrorism (Krueger&Malečková, 2003; Coolsaet, 2013)). However, these studies have been mainly concerned about horizontal inequalities in the context of multi-ethno-religious societies. With regards to the study of ‘terrorism’ or religious sourced terrorism, any direct relationship between poverty and violence has been rejected. For instance, Kruger and Maleckova (2003) argue that, Hezbollah militants and ‘Israeli Jewish Underground ’(terrorists group) were mostly from privileged backgrounds and had acquired tertiary education.

Similarly, the issue of radicalisation and terrorism in Pakistan is a very complex problem. To this end, multiple drivers have been identified as enablers of the radicalisation or defining the pathways towards radicalisation, such as; sectarian divides (Pick, Speckhard, & Jauch, 2009), poverty (Malik, 2009), intolerance (Ahmed, 2011), poor governance (Rashid , 2012), corruption (Abbas, 2013), horizontal inequalities (Malik, 2009), madrasah education , economic and relative deprivation (Khan, 2015), political marginalisation(Ziauddin, 2016), unemployment (Rana,

2016), anti-west and anti-liberal sentiments and grievances (Khan, Khan, Aziz, & Shah, 2012 ; Yusuf , 2015 ; Siddiqa, 2010) . In particular, Madrasah's education system has been widely and exhaustively criticised as responsible for driving the radicalisation in the society and encouraging anti-west sentiments. However, research studies have showed that role of Madrasah education is exaggerated as they comprised of less than 1% of the total student enrolment of the country (Khan , 2008; ICG, 2004 ; Zaid, 2013)). To understand the process of radicalisation, the focus of scholarly work has been on the Madrasah education so far but the present research is aimed at the modern tertiary education system in Pakistan to comprehend the pathways towards radicalisation.

The research study primarily aims to identify the relationship between the sort of education at tertiary level and the radical tendencies in youth in the context of Pakistan. This research is focused to explore the de-humanisation in the tertiary education of the country that has led to manifest the symptoms of radicalisation.

Radicalisation has been observed in the modern tertiary education system and there is plethora of evidence that supports this claim. To give credibility to this statement, the recent cases of Noreen Laghari and Saad Aziz could be mentioned. Radicalisation is growing in the society and the distressing thing is that the militants are more likely to emerge from the academic institutions (Ali, 2017; Khan , 2017; Jamal, 2017). In seeking to understand the relationship between radicalisation and modern tertiary education system in Pakistan, it is important to clarify first both the scope of this research and the terminologies used. The term, radicalisation is an amorphous term and it is indispensable to comprehend this term first before moving on to other concepts. Radicalisation is a multi-faceted and dynamic process which acts as a pathway that leads the individuals towards the use of violence. The term radicalisation is quite perplexing and contradictory; as the radical views can be violent or non-violent in nature. A radical is a person who challenges the existing mainstream socio-political and religious norms within a society (Youn,Holsappel,, Zwenk, &Rooze, 2013) Moreover, the involvement of an individual in the violent acts does not necessarily signify the adherence to the radical and extremist tendencies but he could be inspired because of adherence to a particular group or other personal reasons (Allan, Glazzard, Jespersion ,Tumu, &Winterbotham, 2015).

In addition, scholars have cautioned using the terms ‘radicalisation’ and ‘extremism’ as interchangeable. In order to differentiate the ‘radicalisation’ from ‘extremism’; it is important to comprehend that extremism has some features that are distinguishing like the rejection of democratic values and pluralism, use of violence, intolerance and narrow mindedness. While the radicals might be violent or not, they might be democrats or not but the extremists are never democrats (Dzhekova, 2016). Since radicalisation is closely related to the idea of extremism as it refers to the increase in the extremism in the mind-set and behaviour of individuals or group of individuals. Radicalisation as extremism is a kind of incubation process leading to the formation of violently minded individuals or terrorists. When people embrace ideas, opinions and views that could lead to the acts of terrorism then the process is termed as radicalisation (Pick, Speckhard, & Jacuch, 2009). It is quite challenging to identify the causes and factors of radicalisation as different individuals have diverse reasons and motivations to get them engaged in such acts of violence (Angus, 2016).

1.1 Education, Youth and Radicalisation in Pakistan:

In Pakistan, youth represents a large proportion of the inhabitants comprising of almost sixty percent of the total population (Zaidi, 2011; Answar, 2017). This bulge of youth in the country shows the significance of the young people towards their role in the affluence and progression of the state. Nevertheless, one of the witnessed issues has been the emergence of violent extremism and radicalisation particularly in youth (Yusuf, 2015). Undoubtedly, these symptoms need to be tackled soon as the future of a state lies in the hands of its youth. However, last few years have witnessed a rapidly increasing involvement of well-educated youth (university graduates) in the extremist activities. Some of the recent incidents in Pakistan showed the immersion of university graduates in the gruesome acts of violence (Siddiq, 2017; Khan, 2017; Suleman, 2017).

However, causes and the factors of radicalisation differ in each and every case and there is no single factor that can be declared as the core cause of extremist tendencies. Siddiqa (2010) argues that it is generally perceived, those with higher education are liberal and reject violence.

In the Pakistan, there is a lack of critical literacy in the educational system and intolerance is prevalent in the society (Raja, 2005; Afzal, 2015). The lack of tolerance in thinking patterns is contagious to the critical literacy and it perpetuates the de-humanised social behaviour. The

education system of Pakistan has failed to produced graduates with analytical, critical, creative and research skills (Jawaid, 2013; Jamal, 2016; Khan T. , 2018). Due to traditional teaching patterns and out-dated information; students have fewer skills compatible with the rapidly developing world (Ahmad, 2014).

Siddiqa (2010) explains that, the de-humanisation aspect is vastly present in the education sector starting from school to university level. Majority of the educated youth exhibit the conservative views even those belonging to the elite universities of Pakistan. There are several cases in Pakistan too to espouse the claim that hard science graduates are more susceptible to radicalisation as compared to social science students.

A medical student, Noreen Lagahri who was involved in the terrorist related activities is a recent example (Samad, 2017; Tanveer, 2017; Ali , 2017). Another case of radicalisation of medical sciences graduate is that of Tashfeen Malik (Claire, Botelho, & Ellis, 2015; Siddiqa, 2015). Hafiz Nasir and Ishrat, the graduates of engineering from Karachi University and Sir Syed University of Engineering and Technology respectively were involved in the violence related activities too. These both were the suspects of the killing of renowned human activist Sabeen Mehmud (Ali & Zaman, 2016; Khan , 2017). The details of all these cases of the radicalisation of educated Pakistani Youth will be elaborated in the subsequent chapters.

1.2 Research Problem and Theory Building

To understand the relationship between education and radicalisation, Rose (2015) insists to consider and analyse the sort of education. Particularly, the students of hard sciences have a higher percentage of involvement in the acts of violence as compared to social science students. He argues that the way hard sciences subjects are being taught fails to develop critical and analytical thinking skills in students.

It is required to explore the de-humanising aspects in the education leading to the inclination of youth towards violence. Many of the research studies (Rose, 2105; Gambetta & Hertog, 2016; Alder, 1997) conducted on the international as well as national level showed that the phenomenon of radicalisation is more prevalent among the graduates of hard sciences rather than social sciences. Terrorists are more likely to hold degrees in medicine, engineering, technology and applied sciences while the non-violent radicals are much more likely to study social sciences

and arts (Bartlett, Birdwell, & King, 2010). This aspect shows that a kind of education may be an important factor for the individual's susceptibility to radicalisation (Rose, 2015; Alder, 1997).

In a similar vein, Diego Gambetta and Steffen Hertog's study "Engineers of Jihad" has explicated that there is an over representation of engineering graduates among the violent radical groups. Engineering mind set rejects the liberal views and shows a tendency towards traditions and cultural norms (Gambetta & Hertog, 2016). There are quite a large number of research reports and papers presented on the philosophy of engineering education. Argument of most of the research studies is that philosophical education should be amalgamated with engineering education to make it more humanising. "Enlargement of mind" is the significant requirement for an individual to become more intellectual and liberal and that is achieved by engaging in fresh ideas and concepts (Newman, 1982).

While employing the assertions made by Rose, Bartlett, Alan and Gambetta ., this research argues that; to understand the growing trend of radicalisation in Pakistan's youth at tertiary education level. There is a greater need to look at the sort of education in Pakistan contributing towards the increase of radical sentiments in the youth. The aim of the education should not only be confined to the mere attainment of knowledge but it should promote the freedom of thought and expression.

The present research is aimed to investigate and understand the nexus between the modern tertiary education and the growing tendencies of radicalisation in youth. The core focus of the research is to explore the de humanisation aspect in a certain kind of education system in Pakistan. It will address the futuristic aspects regarding the humanisation efforts in the education sector of Pakistan. Conducting a thorough research on the topic will contribute towards the literature on the phenomenon of radicalisation in the context of Education.

Moreover, the research will explore the radicalisation tendencies among the hard sciences students and argues to humanise the tertiary education system in Pakistan. A kind of education is needed that encourages progressive, liberal and critical thinking, plurality, tolerance. In doing so, certain kind of education reforms are needed.

The qualitative research methodology will be used for conducting the research. The research questions will also be answered by using the qualitative approach. The primary data on the

research will include the semi-structured interviews of the professionals of hard sciences, educationists, students and the policy makers Moreover the research also involves descriptive analysis of the secondary data on the radicalisation, education and humanisation of education system. The scholarly literature on the topic will be analysed involving various authentic books, journals, articles, research papers and any kind of electronic source

The key significance of the study is that it is focused on the modern tertiary education as the previous research work was mostly conducted on the Madrasah curriculum. In Pakistan, almost no research study has been conducted on the over-representation of hard sciences graduates in the violent activities. Consequently, this research study will act in filling the gap in literature.

The thesis is comprised of seven chapters. Second chapter consists of literature on the radicalisation, education and humanisation of education. Third chapter will explain the methodology and will clarify the selection of methodological choices that why and how they were chosen for the research. Chapter four will discuss the case of Pakistan in the context of youth radicalisation and the shortcomings in the education sector of country. Fifth chapter will include the primary data which are interviews and discuss the research results and will give analysis of the research. Chapter sixth will be comprised of the recommendations and the policy implications to humaniseand reform the education system in Pakistan. Finally, last chapter will conclude the research by giving a summary of the key findings and recommendations for the future research.

CHAPTER 2.

LITERATURE REVIEW

This chapter is comprised of the literature relevant to the radicalisation research in understanding the nexus between radicalisation and modern tertiary education. Scholarly literature available on the research topic has been reviewed in this chapter comprehensively.

Radicalisation is a complex and multifaceted phenomenon and there is no scholarly consensus on the idea that how the radicalisation takes place and why the people become involved in terrorist's activities. The use of the term radicalisation became widespread after the 9/11 attacks and many different interpretations of the radicalisation have been introduced till then i.e., right wing, left wing, extremism, religiously inspired and Islamist radicalisation etc. Policy makers and analysts have started using this term since 2004 (Kundnani, 2010). As the term radicalisation is often interchangeable with the other concepts of terrorism, political violence and extremism. Hence, it is required to comprehend the phenomenon of radicalisation in significant detail to know the differences.

Dalgaard Nielsen has provided an inclusive definition of the concept by stating that 'a radical is a person who has a deep desire for the fundamental socio-political changes within a society and radicalisation is being understood as the phenomenon to pursue the radical changes in the society hence posing direct threat to the existing norms and order. Moreover, when these radical ideas are accompanied by the willingness to support or engage in violent acts then the process is termed as the violent radicalisation' (Dalgaard-Nielsen, 2010).

Another definition of radicalisation provided by British Government states that "radicalisation is a process by which a person becomes entitled to support the extremist and terrorist ideologies being associated with a terrorist group" (p.13). UK Government has also identified a Prevent Strategy that it is possible to stop the vulnerable people from being drawn to the terrorist related activities by intervening during the process of radicalisation. Concern rising by carefully gathering information is being declared as the vital part of the strategy that if a particular individual is susceptible to terrorism or not. If the assessment shows vulnerability of an individual then it can be ensured that he/she receives appropriate support and treatment when needed. These interventions are being aimed at diverting the people from radicalisation.

Nonetheless, this prevent/concern strategy is not applicable in the cases where actual terrorist activity is evident (Heath-Kelly, 2013; BBC, 2017; Graham, 2017; Sansbury, 2017).

The European Commission's Expert Group has defined the phenomenon of violent radicalisation as "the process of socialisation to extremism which manifests itself to terrorism" (2008, p.9). Furthermore, European Commission's Expert Group on the Violent Radicalisation also outlined the radicalism as an ideology that challenges legitimacy of the established policies and norms but it does not necessarily itself lead to violence (EU, 2018). Additionally, another very useful definition of radicalisation given by the United States Department of Homeland Security states that "radicalisation is a process of adopting an extremist belief system which includes willingness to use, facilitate or support the violence as a method to cause the social change" (Schmid, 2013).

Radicalisation should be assumed as an embedded individual process. It means that the causes of radicalisation should be analysed from the individual's perspective that is in constant interaction with his specific social environment. For this; Staun and Veldhuis have introduced a Root Cause Model which is comprised of the macro and the micro level factors as the root causes of radicalisation. At the macro level; the causes of radicalisation involve the political, cultural and the economic factors. These factors act as the trigger events; they shape an environment conducive to radicalisation but they cannot elaborate the phenomenon of radicalisation in detail. For that purpose; Velhuis and Staun identify the micro level factors which are further categorised into individual and social factors. Individual level factors shape that how individuals respond and perceive environment and social situations is based on particular experiences and characteristics of an individual. Whereas, social factors explains that an individual is embedded within certain social structures and depicts that with whom he/she identifies himself and from where he receives information and get influenced. Instead of macro level factors, these social and individual factors outline the circumstances of an individual liable to the radicalisation. However; they concluded that the causal factors of radicalisation differ in every case according to the situation (Veldhuis&Staun, 2009; Rahimullah, 2013).

There is an increasing consensus among the scholarly debates that there is no one single pathway to radicalisation but an individual goes through a serious of different processes leading to radicalisation. Each individual has different influences, reasons and motivations for following

the path to radicalisation. There are a range of political, social, economic, cognitive and ideological thinking patterns responsible for the emergence of radicalisation in a person (Hafez & Mullins, 2015). Though, the present research study is aimed at exploring the sort of education responsible for the radical tendencies in youth. But along with education the discussion of these above mentioned factors are necessary too to discover the pathways leading to radicalisation. One significant thing to notice is the presence of a “group” or a certain influential person in every case of radicalisation; who act as guide for an individual’s path to radicalisation. Involvement with that particular group or person provides a sense of purpose and belonging to the individual (Feakin, 2014). Research studies shows mechanisms responsible for the individual and group’s pathway to radicalisation. Individual mechanisms involve the political grievances, personal victimisation and joining a radical group. While group mechanisms of radicalisation comprised of the conflict with an out-group, competition with the power of state and struggle for same objectives (McCauley, 2008). Such kind of individuals who become prone to violent radicalisation has failed to develop the negotiating and critical skills in their minds that could enable them to live peacefully in the society (Bhui, 2010).

In the case of Pakistan, the appearance of militant tendencies in both the thoughts and behaviour of younger generation is prevailing (Nuri, Khan, & Khan, 2011). Radicalisation is one of the major problems faced by the country as per the research results of many surveys showed (Khan, 2015; Siddiqa, 2010). It is very complex to understand the phenomenon of radicalisation in a country like Pakistan as there are various causal factors. Research studies have witnessed the militants who belong to poorer families and are uneducated and have also observed the highly educated militants belonging from affluent backgrounds (Fair, 2007).

It is generally perceived that radicalisation is limited to the Madrasah going students but the research studies has showed that the terrorists organisations are more likely to recruit the educated individuals (Siddiqa, 2010) .There are different stages to the radicalisation process and it is not necessary that an individual goes through all the stages to become fully radicalised. In some cases, a person may skip some stages and some will not even progress beyond a certain stage. The most widely cited drivers of radicalisation in literature by researchers and practitioners on Pakistan include the corruption, poverty, socio-economic deprivation, Madrasah education and the bad governance (Yusuf &Jawaid, 2015; Khan, 2011). However, there is no

evidence to prove that there is some direct connection between the poverty and the emergence of militant tendencies in individuals.

As per the research studies, most of the Youth in Pakistan shows religious intolerance and ‘us versus them’ mentality. Majority of the youth in Pakistan mostly respond to and formulate their opinions on the basis of inherited biases and the mass media (Siddiqi, 2010). Although, Youth in Pakistan who belong to affluent socio economic backgrounds and having better career opportunities express liberal views in some social and cultural matters. However in the matters relating to geo politics and identity politics; they have a conservative approach. A research study titled “Is the Youth in Elite Universities in Pakistan Radical” was conducted on the elite universities in major cities of Pakistan including Islamabad, Karachi and Lahore. The main argument of the author is that there is an absence of intelligent thinking in the youth and their opinions are mostly based on the mainstream ideas. There is an urgent need to think outside the box and have a liberal approach towards significant political matters. Siddiqi (2010) argued that the main objective of her research was to explore that whether access to better education and career opportunities made any difference in the mind set of youth as the popular notion is that highly educated ones are liberal. Nevertheless, surprisingly most of them expressed a propensity towards latent radicalism and narrow mindedness.

The research result of the survey showed that majority of the respondents’ value religious and cultural norms and exhibited a tendency towards religion. Interestingly, most of them were against the idea of Pakistan becoming a secular state and many considered Shia as non-Muslims. In the response to the abolition of madrasah education; most of the respondents were against the idea (Siddiqi, 2010). Regarding the choice of political leaders, majority favoured Imran Khan and exhibited a lack of knowledge about democratic principles. Most of them also expressed anti US sentiments and consider it as the biggest threat to Muslim community. All of these opinions showed overall conservative thought patterns prevalent among the youth.

Most of the previous research has been focused and limited to the Madrasah education in Pakistan. But Winthrop and Graff have highlighted the shortcomings of the whole education sector in the country. They outlined that for a stable and prosperous Pakistan, education reforms must be given a higher priority. The research study has also mentioned and commented on many of the recent and old relevant research studies conducted on the nexus between militancy and

education. It analysed that the quantity of madrasahs involved in militant activities is very scarce and most of the parents send their children to madrasah in the evening classes to attain the religious education. Globally, substantial emphasis was laid on the role of madrasah in stimulating militancy in Pakistan but the findings of the report exonerate madrasah education from being the prime suspect of militancy in the country. Moreover, educationally Pakistan remains at the bottom in Asia and comes after India and Niger in the countries with highest proportion of out of school children (Winthrop & Graff, 2010).

Pakistan's history shows that it has used its education sector for the achievement of political interests. For instance; dating back to 1980s when Pakistan study was made a compulsory subject. It contained biased and conservative content specifically related to the creation of Pakistan and the culture of rote learning was introduced too without understanding the text (Winthrop & Graff, 2010). The curriculum of Pakistan studies, Urdu, Islamic Studies and history was designed in such a way that it promotes extremist ideologies and intolerance (Awan, 2012; Afzal, 2015). This Islamisation of the education curriculum in the 1980s leads to the emergence of hatred and de-humanised tendencies among the younger generation. As the textbooks were loaded with the anti-Indian sentiments and presented only a biased view of the independence history of the subcontinent. Consequently, 1980's witnessed a sudden rise in the extremist and conservative tendencies in the Pakistani society (Siddiq, 2010). Winthrop and Graff also highlighted another shortcoming of the education system by underlining the lack of relevant market and job skills in the graduates.

The current system of education in Pakistan lacks critical thinking and promotes rote learning in various ways. Students lack the basic analytical, rational and independent thinking skills and are mostly discouraged to ask questions (Siddiq, 2017; Afzal, 2015). This kind of education system is unable to equip the students to understand and counter the prevailing problems and narratives in the society. Thus the lack of critical thinking in the education system is leading to the emergence of dehumanising social behaviours in the society particularly religious intolerance is prevalent (Raja, 2005).

Rose (2015) argued that there could be some connection between the teaching of certain kind of subjects and the conservative mind set of extremists. He has also reviewed the existing research conducted which leads the individuals towards radicalisation and proposed that further in-depth

research on the topic is indispensable. Rose argued that there could be a particular problem in the MENA (Middle East and North Africa) region as one research conducted in 2007 showed that about 48% of the Jihadi recruited in MENA region were university graduates. Out of these 48%, about 44% of the graduates were from engineering discipline.

The main argument is that the education of individuals may be a significant factor leading them towards radicalisation. Author has outlined that the learning methods in MENA region are based on rote learning and for the sake of clearing exams. There is a keen absence of critical thinking and creative skills in the region and subsequently graduates are not equipped with the skills required for employment. Moreover, the social sciences are being neglected while hard sciences are viewed as superior and elite subjects in MENA. In a nutshell, Rose has argued that there is a need to encourage critical thinking and questioning among the young generation to immunise their minds. They need to learn about how to think rather than what to think. Likewise, the way some subjects are taught to the students' needs to be reformed and it could help in mitigating extremism (Rose, 2015).

For the past few years there has been a stimulating increase in the philosophy of engineering education and that it is distinct from the philosophy of science education (Heywood, 2012). A plethora of papers and reports on the engineering education have been presented. Engineers do not necessarily are traditional or conservative but they tend to dislike deviance from the broader traditions and norms of society (Gambetta & Hertog, 2016). Among the left wing radical groups, there is nearly an absence of engineers and most of the left wing groups are dominated by the graduates of social sciences and humanities. While surprisingly, there is an over representation of engineers among the right wing extremist groups. Gambetta and Hertog argued that different individual are attracted to different types of ideologies as distinct ideologies meet the psychological, emotional and cognitive requirements of individuals. They also identified that right wing extremist share a preponderance of ideological tenets with the radical Islamists including anti modernism, rigid boundaries, focus on traditions and customs, anti-liberal and west sentiments. Nonetheless, they also argued that they have no direct evidence to prove that same characteristics that favour the Islamic extremism also favour the right wing extremism.

By conducting a vast research on the engineers who turned terrorists, Gambetta and Hertog suggested that the engineering mind-set show a preference for order and the established social

structures in the society. By analysing the profile of extremists in MENA region, another surprising aspect they found is that Saudi Arabia is the only country which showed scarcity of engineering graduates turned extremists. One of the key reasons is because of the better professional opportunities in the country. In Saudi Arabia, most of the extremists and violent individuals were found among the marginalised segments of the society with lower levels of education and professional opportunities (Gambetta & Hertog, 2016). Whereas, other countries in the MENA where the graduates endure a paucity of career opportunities showed a significant over representation of graduates among the violent radicals especially the ones from elite degrees. However Gambetta and Hertog concluded that relative deprivation is not the scrupulous explanation of engineers' over representation among the extremist groups. Their research explicitly showed the abundance of engineering graduates in the South and West Asia despite of not experiencing the same relative deprivation as prevailing in the MENA.

Although, there is no key evidence to prove that certain kind of education is responsible for the radical tendencies in youth but the global research based studies has witnessed the preponderance of hard sciences graduates in violent extremist groups (Allan, 2015). Regarding the highest percentage of engineering graduates among violent radical groups; Gambetta has highlighted the two main causal factors. First one is the relative deprivation which means the unmet career expectations of engineers from less privileged backgrounds lead them to frustration and finally they end up in violent groups. Second factor is the distinctive mind-set of engineers which makes them more prone to radicalisation as compared to other individuals. He outlined three characteristics of engineering mind-set including monism, preservatism and simplism. Gambetta also argued that Jihadist organisations are most likely to recruit the individuals who are very inquisitive and less challenging. Because engineers are meant to shape the technological world therefore they have no compassion with the compromise, conflict and they deny history (Alder, 1997).

The more focus on STEM subjects is on the establishment of hard skills including mathematics, coding, ability to use software programs instead of soft skills that are critical and analytical thinking (Riddell, 2017). The humanities subjects are taught in a way that awakens scepticism and uncertainty in students. Rose (2015) argued that social sciences and art are more about questions rather than answers and therefore it initiate debate, dialogue and curiosity. Students of

hard sciences don't challenge the facts and figures being taught to them and accept the things as they are. This kind of teaching is damaging the students' ability to reason and argue. Students are being presented with answers and certainty in engineering and science classes. The education in science even at university level does not encourage discussion about science while there is so much in sciences to debate about (Rose, 2015).

Heywood (2012) has also discussed the philosophy of engineering education. He argued that the role the philosophy can play in the engineering education should be given significance. He proposes that for the development of students' attitude, the relationship between the faculty and student is very important. Faculty can help the engineering students in overcoming their negative sentiments towards liberalism. It has been argued that the implementation of the philosophical methods in the engineering education can enhance the study by modifications in the approaches of curriculum and teaching (Heywood, 2012). The basic argument presented by Heywood is person centric which means for the development of an individual as whole being, he should have exposure to liberal thoughts and education. The notion of the liberal education was also presented in the classic book "The Idea of University". Newman outlined the fundamental purpose of university is to equip the students with the liberal education and the universities should focus on the students; considerately. He argued that the "enlargement of mind" is the significant need of students by engaging them in various ideas and concepts. The sharing of different ideas and discussions among students help them in becoming intellectuals.

Students do not need to pursue each and every subject but by interacting with those studying other particular subjects will assist them in augmenting their learning too. This will lead them to have plenty of information that is required to form new ideas and philosophies. In this way, they will become independent in thinking and open minded and will not only rely on their teachers as the only source of learning. Consequently, students will not be only focused on one subject and will form their own opinions and ideas. The core aim of the education is not only confined to the knowledge and wisdom but the freedom of thought is indispensable (Newman, 1982). By employing the phrase "Enlargement of mind", Newman refers to the expansion of knowledge and mind with the amalgamation of liberal thoughts. The expansion of mind will lead to the expansion of knowledge and students will get engage in fresh ideas and concepts. Students' exposure to different subjects and sciences will create the individuals that are intellectual, wise,

creative and open minded. Newman also argued that universities should be free of any kind of religious discrimination and should put forward ideals of pluralism, secularism and liberalism.

The creation of humane system of education that espouses the ideals of justice, tolerance and humanity is termed as the humanisation of education (Elkanova, 2013). From a humanistic perspective, education focuses on the development of creativity, autonomy, empathy, rationality and solidarity among the individuals. Freire (1973) argues that when the education is dialogical, critical and practical then it is humanising. He encouraged the students to be curious, challenging and probing in the educational matters. He believed that the traditional education is oppressive and it dehumanises the individuals. As the students are not encouraged to question and think and accept the things being poured into their minds. Freire (1970) also argued that any kind of educational curriculum that ignores the oppression, racism, sexism, discrimination and any kind of exploitation in the society is dehumanising. . Friere's ethical ideal is the humanisation acquired through practice and dialogue and if a person is inhibited from thinking critically or engaging in practice then it is de-humanising. The concept of critical literacy given by Freire is significant in the struggle for the freedom against oppression (Macedo&Freire, 1987; Thampi, 1973; Yamaguchi, 2000).

A form of reading and writing is needed that enable the individual to challenge the repressive social circumstances in the society (Raja, 2005). Education must enable the students to go beyond the current understanding of the world and to expand their critical thinking capabilities. The process of reading that goes beyond the mere understanding of the text and deeply analyse the context of the text is known as the critical thinking. By being critical in learning, individuals become empowered and humanised (Aliakbari&Faraji, 2011). The idea of a critical theory is concerned with the formulation of a just society which gives people full control over their lives. It rejects violence, raises awareness and refutes any kind of discrimination against the people. It is closely related to the idea of a promotion of culture of peace in the society by educating individuals in such a way (Gor, 2005).

John Dewy, the father of modern critical thinking has termed it as the reflective thinking and defined it as the active, careful, persistent and careful considerations of knowledge in the light of ground which supports it. A good critical thinking requires the clear evaluation of observations, clarity, coherence and communications (Fisher, 2001). The actual problem in the formulation of

reflective thought patterns is the difficulty in the establishment of conditions favourable for the arousal of curiosity in a person.

The aim of education should not only be limited to the attainment of knowledge but rather it encompasses the personality development of an individual. Teachers can play a crucial role in this regard by paying attention to each and every student and focus on the establishment of highest moral and intellectual values in the individual. The actual goal of education is to discover the humane side of an individual and that is possible by giving significant attention to the individuality of each student. Development of the habits of analysing, contextualising, evaluating and solving the social problems leads to the intellectualisation of education process (Elkanova, 2013). Moreover, the pursuance of knowledge and humanisation is not an individual activity but a person learns and broadens his horizon through interacting with others. Hence, for the effective teaching and learning process, dialogue is essential as it serve as a pathway for opening the mind of students to new ideas and concepts.

No matter what level of education a student is going through whether he is in preschool or graduate school; reading critically is vital. Critical thinking in writing and reading led to the intellectual growth of individuals. By being critical in reading; it becomes an act of knowing and knowledge enlargement (Roberts, 2000). Furthermore, Individuals tend to learn faster and better in the context of emotional and social development which focuses on the humanistic growth of individuals. They learn best by doing and practising rather than just following ideals; that is the philosophy of pragmatism. Pragmatism implies that true knowledge arises from the implementation of theories that are practical and only those ideas and beliefs are reliable which are practically applicable. The idea of pragmatism in education is very important for the development of an individual (Madux, 2015).

Another very important aim of education is the character development of an individual which includes courage, humility, intelligence, sensitiveness and vitality. Education should be interventionist and open-minded and it must stimulate curiosity in the individuals from early childhood education. In the pursuit of knowledge; patience, perseverance, concentration and faith is also significant (Russell, 1961).

Russel was a firm believer of the influence that the education sector can have on the society by bringing reforms and changes. He argues that it is important for an individual to have a critical outlook that would encompass the critical reflection of the surrounding situations (Nicolaidis, 2017). He also emphasized on the need to become impartial but acknowledges that it is not entirely possible for an individual to be totally impartial while observing the world. Russel (1940) argues that one should try to have a control over his biases though some of them may be unconscious but it is necessary to have an impartial outlook. Russel debates that people have an inherent ability to distinguish between the right and wrong and they achieve moral knowledge by intuition (Stander, 2015; Shah, 2014).

In a European country Belarus, higher educational institutions have experienced the implementation of humanistic values in the education sector. Many educational institutes in Belarus have developed the methodological and theoretical issues of humanisation with regard to the specific conditions of the institute. Many institutes have initiated a plenty of educational programs aimed at the implementation of humanistic values in pedagogy. Issues pertaining to the realisation of humanistic values in education have been discussed in the meetings and students are also trained in the humane educational values (Ignatovitch, 2016).

The recent debate in the higher education is mostly concentrated on the development of personal transferable skills among the students (Heywood, 2012). Accordingly, prior to the attainment of professional training, the focus of higher education should be on the development of person's intellectual capabilities. Heywood (2012) argued that whether it is possible that a student can develop all of the personal transferrable skills in seclusion from the students of other disciplines. It is not realistically possible, man is a social being and he needs to interact with other fellow beings for the development as a person as argued by John Macmurray and John Henry New Man. Human beings discover who they are as individuals by interacting with other people and in personal relationships. Astin also emphasized on the relationship between faculty and students as an important factor. Moreover, the influence of student's peer group is significant in the growth and development during the four years of undergraduate studies. As the formulation of dominant ideas and beliefs in the students have a tendency to transform in the relation to peer groups' ideas and values (Astin, 1993).

Astin (1993) found out by conducting his research that in many of the institutions the development of relationship between faculty and students is often neglected. The growth of critical thinking, intellectual development and analytical abilities has been witnessed in the institutes who have a closer and interactive student-faculty relationship. Such students are also more likely to succeed academically.

CHAPTER 3.

METHODOLOGY:

This chapter has discussed the methods and the methodological choices which were employed in this thesis to understand the research problem. Qualitative methodology has been used in conducting the research which involves an in-depth study of the phenomenon to understand the underlying problem. It is an exploratory research and it dives deeper into the research problem to understand it thoroughly. For the research inquiry, qualitative researchers use various ways of inquiry which involve the case study approach, ethnography, historical analysis, grounded theory, discourse analysis, individual interviews, group discussions and the participant observations (DeFranzo, 2011; Mason, 2002; Ospina, 2004) .

The qualitative research values the flexibility and the openness and researcher in this kind of research is considered to be closely associated with the collection and the analysis of data. But in quantitative research, the researcher maintains a certain objective of the research and the research is concerned with the measurement and the numbers. The qualitative research methodology allows the researcher to get involved closely with the collection and the analysis of data (Sofaer, 2002; Hammarberg, 2016 ; Malterud , 2001).

This research study has used the case study approach to understand the nexus between tertiary education and the radicalisation in the context of Pakistan. The main research question of the thesis; are the graduates of hard sciences more inclined to radicalisation have been answered by using the qualitative approach. About 10-12 interviews were conducted across the different universities of the professors of hard and soft sciences. Some interviews were also conducted from the professionals of hard sciences i.e.; engineers and doctors. Education policy makers were interviewed too to have their view points on how the education can be humanised and what kind of education policy reforms are needed. The qualitative methodology was adopted for this research because the main research question demands it to be answered by the having the opinions of various doctors, engineers and professors.

Approximately, all of the interviews were recorded as the respondents allowed it and took place in the office without any disturbance. The time duration of almost all the interviews was about 30 minutes. 12 interviews were conducted as most of the professors were on leave and some of

them were abroad due to the summer vacations in the educational institutes. Interview questions were based on the research questions of the thesis. Another limitation of the research was that there is a lack of research on the relevant topic in Pakistan. Although, there is literature available globally but in the context of Pakistan; almost no research study has been conducted which was also an obstacle during the research process because of the shortage of secondary data on the subject. Moreover; the available secondary data by international scholars was also very limited on the nexus between tertiary education and radicalisation particularly hard sciences. However, these limitations of the study provide the basis and the significant need for the future research on the topic.

Interviews were semi-structured and theoretically driven. Semi-structured interviews involve the open-ended questions; people were asked about their opinions on the matter. Semi structured interviews are more often used in social sciences research and they are particularly beneficial for exploring the views of a person towards some social problem or cause etc. Because of the open ended questions being asked in semi-structured interviews, the respondents have the flexibility to answer the questions and the response rate is increased too (Given, 2008). These semi-structured interviews are widely used in the qualitative research studies. The semi-structured interviews are more open which allow emergence of new ideas and opinions. While the other kind of structured interviews has a more rigorous pattern and do not allow the respondents to express them freely and openly. Because of this format of interviews; respondents answered the questions flexibly and freely. But some of the respondents requested to keep their identity anonymous because of the privacy reasons while some respondents did not show any hesitation.

The secondary data included the scholarly literature on understanding the phenomenon of radicalisation and the tertiary education system . There is a lot of evidence available globally which shows the immersion of hard sciences graduates in the terrorism related activities. In the case of Pakistan, this research study is the first one to be conducted on the hard sciences.

To analyse the qualitative data; deductive and inductive approaches are used. Deductive approach is employed when the resources and time is limited. This type of approach is used when a hypothesis/assumption is developed from an already existing research or a theory. In this approach, the researcher reads the already existing theories and concepts and then tests the hypothesis emerged from those. While in inductive approach, a researcher begins the research by

collecting the data that is relevant to the research topic. Then the researcher looks for the patterns in the data to develop a theory.

In short, the main difference between both the approaches is that an inductive approach is aimed at developing a new theory from data gathered while deductive is concerned with the testing of the theory. The inductive approach gives new knowledge and it makes broader generalisations from the specific observations while the deductive approach does not provide any new knowledge as there is already a theory. The deductive approach is highly structured because there is a specific aim which needs to be accomplished while inductive is less structured. The end result of the research in inductive approach is a theory while deductive ends with the confirmation or rejection of the theory (Worster, 2013). The approach employed in this thesis is deductive due to the limitation of time and resources. The main research question of the thesis is based on the Gembetta's hypothesis and the Martin Rose's argument. The research results neither refute the hypothesis nor does it completely confirm it. The data collected showed that along with education; various other factors are also responsible for an individual's tilt to radicalisation.

CHAPTER 4.

EDUCATION SYSTEM OF PAKISTAN AND RADICALISATION

Pakistan is the country which is struggling continuously since decades to survive the numerous problems of poverty, unemployment, corruption, terrorism, education and the political instability. Education should be considered as an important factor for the improvement of country's human capital. Pakistan is one of the top five countries with a bulge of youth comprising of about 60% of the population of younger people (Tahir, 2018). The future of any state lies in the hands of its youth and currently the youth of Pakistan is mired in various crises.

So far, Madrasah education system has been criticized in Pakistan for being responsible for spreading radicalization and fueling militancy in the society. The much focus of the scholarly work has been on the Madrasah education but a systematic review of the data on the Madrasahs showed that only a small number of Madrasahs are actually involved in the militant activities. Moreover, the data showed that the Pakistani parents have not turned in large numbers to the Madrasah education system to educate their children or because of attending Madrasah; they have been radicalised (Winthrop & Graff, 2010) .

One of the major reason that negates this claim as the Madrasahs being the sole contributor to militancy is that there is no steep increase in the number of Madrasahs and there are very few Madrasahs in the whole country. Second reason that refutes this argument is that there are few families that choose to send their children to Madrasah as full-time students. M about 60% of the families is not satisfied with the Madrasah system; they only send their children to gain religious education. Likewise, the third reason that why this argument does not hold evidence is that there are very few Madrasahs in the state that are linked to militancy while majority of the Madrasahs have neither any kind of extremist or violent agenda. There are only a limited number of Madrasahs that have been proven to be vulnerable to the recruiters associated with the militant groups. A number of Madrasahs in the country follow the curriculum assigned by the government (Winthrop & Graff, 2010). Consequently, the argument that Madrasahs represent the only security challenge which is education related is not valid. There is exaggeration in the number of Madrasah which actually educate the Pakistani children and the assumption that Madrasah enrolment can accelerate the propensity of youth to join terrorist organization.

It is generally believed that educated people cannot be involved in violent activities and they are liberal. But the research results of the survey have showed otherwise; terrorist's organisations are more likely to recruit the highly educated individuals. The terrorists' organizations demand the highly educated individuals because they can adjust easily within different environments.

In Pakistan there a lot of incidents that showed the gravitation of educated younger people towards radicalization; it is an alarming phenomenon and there are multiple evidences that support this claim. For instance; the case of Pakistani girl Noreen Laghari's involvement in the terrorist activity shows the immersion of an educated individual in violence. She was a medical student in Liaquat University of Health and Medical Sciences, Multan. Laghari abandoned her education, career and home to join IS. She was arrested by the security forces as one of the suspects who were planning to attack the Easter celebrations (Samad, 2017; Khan & Gabol, 2017).

A woman of Pakistani origin, Tashfeen Malik with her husband was involved in the killing of about 14 people in mass shootings in San Bernardino, California in December 2015. She was a Pharmacy graduate from the Bahaud din Zakariya University, Multan and was also enrolled with Al-Huda, Islamic school for women (Calire, Botelho, & Ellis, 2015; Cloud, Bennett, & Sahi, 2015). Involvement of educated individuals in the terrorism is not a new phenomenon. In 2004, a banned organisation Jindullah carried out a terrorist attack on the convoy of corps commanders and most of terrorists were the graduates from the University of Karachi. Another terrorist named Azeem Sheikh who was involved in several extremist activities was an electrical engineer. He got arrested in 2013 and is still imprisoned (Hashmi, 2017). All these brutal acts of violence show the emergence of intolerance and the intensity of radical tendencies in the society

4.1 Limitations in Pakistan's Education System

One of the most powerful tools to achieve the national goals is to equip younger generation with the skills, capabilities, knowledge and the competitiveness to help shape the future of a state. The progress of any country depends on the kind of education it provides to its youth. A fragile education system in the country is one of the many reasons that the state is going through religious, political, social, cultural, and ethnic and the economic crisis. Though the education is not a guarantee to solve all the problems of the state but no nation in the world can progress

without educating its people. Moreover, improving the literacy rate in any country is a step towards a better life. The education system of Pakistan is lagging far behind many other developing countries in the world. The literacy rate in the country is 58% which is even lower than the Bangladesh and Nepal (Haq, 2017). Pakistan's academic system hamper the creativity and the intellectual growth of individuals; hence producing the students which are unable to think outside the box and not motivated to take any initiatives (Jawaid, 2013). The education sector of Pakistan undergoes the poor management, insufficient financial input and there are low levels of efficiency for the implementation of educational programs. Lack of the governmental funds to the educational institutes is another major problem of the Pakistani Education system. The budget allocation by government for the educational sector is very low (Memon , 2007). The Education in Pakistan is not being aligned with the national requirements and needs of the society. The politicians in Pakistan do not pay much attention to the education reforms. The education sector of Pakistan is highly politicised too; as instead of the concentrating on the educational requirements, it is focused more on the interests of the various political and the state actors (ICG, 2004).

There has been a tremendous increase in the private educational institutions over the last decade but the quality of education has dropped. The higher education commission of Pakistan has shut down the research programs of various universities across the country. Furthermore, the government of Pakistan has never considered education as the top most priority and always prefers the other political agendas (Jamal, 2016). The current educational system and the policies in Pakistan promote rote learning and most of the content being taught in the universities is outdated as well. Rote learning does not provide the students with the skills required to compete in the practical world. Most of the universities are unfortunately failed to produce the graduates with the skills needed to compete with the international job market. Moreover, at the primary level of education; the schools lack the basic infrastructure necessary to meet the demands of the modern day education system. Because of the worsening condition of the education system in Pakistan, the demand of graduates has been diminished internationally. The existing education system is not actually equipping the students for dealing with the challenges of life but it's only preparing them to pass the examinations. Thus, the present system of education is producing the youth who are frustrated, unemployed and disgruntled. It's not about the number of graduates but the quality of those graduates that determines the efficiency of an education system.

One of the major reasons for Pakistan's lagging behind in conducting the research of good quality is because of the lack of critical and the analytical thinking skills among the students (Khan, 2018). On the QS ranking in 2016, Pakistan ranked lowest with the overall score of about 9.2 which is very less as compared to India which got 60.9 points. The quality of a research a country produces is very much significant in the overall ranking of the state's education system. Pakistan ranks lower among all of the SAARC countries in producing the research of good quality. The highly cited research papers from Pakistan comprised of about 0.01% of the over-all research being produced in the last decade. Globally, the good quality research is considered as those which by empirical methods answers the research questions and consequently contributes something to the existing knowledge. Past few years has witnessed an upsurge in the number of published research papers but the increase in publications does not guarantee that Pakistan's research quality has improved as about more than 70% of the research is not of good quality and fails to meet the global standards. Critical thinking skills are considered to be the significant ingredient for the researcher.

Pakistan includes into the twelve countries of the world which spend very less on education; about 2% of the total GDP on the education system. The ratio of GDP Pakistan spends is less than most of the South Asian countries. India is spending 3.8%, Bhutan 7.4%, Nepal 3.7%, Sri-Lanka 2.2%, Maldives 5.2% and Afghanistan 3.3% according to a Global Education Monitoring Report in 2017(Yusufzai, 2017). Another lingering problem of the system of education in Pakistan is the shortage of faculty members. There is a huge gap between the students and the teacher's ratio; the number of students is increasing as compared to the number of teachers (Saleem, 2015). Moreover, the focus of the system is on covering the syllabus and passes the examinations which can lead to the less creative skills in the students.

The textbooks of Pakistan's education system have always been criticized for being biased and largely ignored the peace initiatives. Most of the textbooks at the primary and secondary level are loaded with the content of war militarism and the glorification of the wars with India. Even after the education reforms in 2006, textbooks are loaded with the biased material. Moreover, the attention that has been paid to the education system of Pakistan over the past few years has been limited to the increase of budget, scrutiny of ghost schools and teachers' attendance. But all of these efforts did not prove to be remarkable either (Khan, 2017). Another major flaw in the

education system at the primary level is the discrimination between the public and private schools. Private schools are increasing in number day by day and have more facilities as compared to the government institutions which even lack the basic necessities and the infrastructure. Moreover, majority of the teachers of government schools are not qualified and trained enough to properly teach the students (Khan , 2016). The quality education is limited only to those students which are able to pay the high dues of private schools.

The inequality in the education system is another major concern like the class structure, gender disparity and the divide between the rural and urban areas. These failing educational standards, worsening infrastructure and biased educational content of the Public School system have widened the economic, social and the linguistic divisions between the underprivileged and the privileged class and consequently increasing the religious and the ethnic alienation leading to the outbreak of violent protests. This system is at the risk of provoking the upsurge of violence in the society if it's not comprehensively and quickly addressed. There is no policy formulated to bridge this gap and to ensure a uniform system. Moreover, ghosts schools are another phenomenon related to the fragility of the education system in the country. Such kind of schools exists on the paper but they are not actually present.

Any kind of education in the world which fails to involve its students into questioning, thinking, analyzing and curiosity has no actual worth. The mere memorization of facts and lessons without actually having the critical thinking is not enough to produce the future intellectuals (Qureshi, 2016). The directionless education system of Pakistan is producing the graduates who lack the high order skills like the creativity, analysis, reflection, critical thinking and the research. The graduates produced by the universities of Pakistan are theoretically sound but they have no skills to apply in the practical life due to traditional methods of learning.

The lack of critical thinking skills is not only confined to the education system of Pakistan but the problems exists in the roots of the society, People refrain from expressing their opinions in the public and openly expressing themselves because of the intolerance prevalent in the society. A recent glaring example is that of the brutal lynching of Mashal Khan; expressing his own beliefs and viewpoints freely leads to his killing by the fellow students. Our universities do not let the students to think outside of the box. This kind of attitude not only hinders the flow of

creative and innovative ideas but it also inhibits the intelligence of a person. The foremost duty of the government is to finance and priorities the education in the country.

4.2 De-humanisation aspect in Education

First it is important to understand the term de-humanisation; which means to treat the people as less than humans and to lack empathy and compassion. To treat others in a way which refutes their being human is known as the de-humanisation.

Education systems can exacerbate the situation of conflict and violence within any country and it can de-humanise the certain segments of society. Like education has been used to promote the concepts of individual and collective identity and to exclude certain social groups from the society. Moreover, it can promote the policies of cultural genocide by suppressing a culture, language and religion of a particular social group in the society. For instance, back to 1947 Pakistan the first conflict that emerged in the country was the implementation of Urdu as the national language. It lead to the outbreaks of protests by the students specially Bengali who were afraid that they will not be able to graduate and will be excluded from political participation and other opportunities because very few of them spoke Urdu. This Urdu policy was one of the first sources of conflict within the country (Torwali, 2014; Winthrop & Graff, 2010).

There are many other approaches which can explain that how the education can radicalise or de-humanise an individual. An education system can serve to worsen the grievances against the government which could lead to an individual's susceptibility to support or join a militant group. there are a range of way in which grievances against government can be exacerbated by education. Education also has the potential to promote discrimination and oppression; condequently increasing the set of grievances. Moreover, education system can either teach the students skills to peacefully resolve the conflicts and become responsible citizens. Likewise, it can also engage the students in learning about 'war education' which could lead to the escalation of violent thinking patterns among the students.

A study conducted by the British Government showed that the terrorists and extremist organisations are more likely to target those colleges and schools where the young people are more inquisitive and less challenging and more prone to the extremism(FCO, 2004). A deeper and inside look at the reasons that why the graduates of technical studies and the engineering

education are more prone to radicalisation shows that a lack of critical thinking skills lead to the susceptibility of them towards violence. Engineering students are liable to suffer from two kinds of intellectual deficits which are basically the part of their technical training that is they are likely to “repress the dissent and the difference” and they treat uncertainty as illegitimate. And because of their mechanistic and technical training, they are more prone to attribute the forces of evil to any one identifiable enemy (Gambetta & Hertog, 2016). Thus education can play a key role in the exacerbating of conflict situations so critical thinking and analytical skills are significant in mitigating the risk of violent conflict. A properly structured education system can play a key role in the development of nation building and the peace within a society. A well-established Education system can promote the peaceful and tolerant world view, mitigate the grievances and can instill the good citizenship skills within an individual.

Furthermore, an education system has the power to help the students in developing a more radical/militaristic outlook or help them to challenge the extremist world views and develop more tolerant and positive views. For instance; a study of the curriculum in Rwanda before the genocide found the evidence that led to the incitement of violence between the Hutus and Tutsis. A strong educational curriculum should help the students to be more tolerant and compassionate towards other minority groups in the country. If a state has fewer employment opportunities for the educated youth; it could also be a factor for joining the militant groups.

Freire has used the example of ‘banking education’ to criticize the traditional education system in which the knowledge is conveyed from teacher to the student through a set of determined curriculum. He emphasized on the liberation of education system that could offer opportunity to the students to realize their abilities and develop their own thinking patterns (Saleh, 2013). Paulo Freire criticized those who dominate in the society. He criticized the banking education by stating that it implies manipulating the learners by forcing them to conform to the objectives of the dominant ruling elite who do not wish to lose power. He criticized the curriculum of banking education that it is traditional and it never leads to the development of the critical consciousness. According to Freire, in the learning process; evaluation is a very important part.

In a research report conducted by British Government, when the youth were asked about their trust on the country’s institutions; majority of the respondents prefer the religious and the military institutions instead of the national educational and the health institutes (BC, 2009). The

poor learning system hinders the development of core skills in the individuals which are needed to mitigate the militancy. At the primary level of education, students are learning very less too and are struggling to develop the reading and the critical thinking skills (Winthrop & Graff, 2010).

The outdated education system, fragile socio-political structures and the weak governance within a state provides the perfect breeding ground for the radical ideas to grow and flourish. Another aspect of education that could lead to the frustration among the youth is the poor quality of education which is not relevant to the market needs. The education system of the country is producing many graduates with the fewer skills for the economic survival. There is a really severe mismatch between the skills of the manpower in the country and the demands by the job market. Even in a survey of Pakistani students, most of the students said that they lack the skills which are necessary to compete in the today's 21st century labor market. Though; such kind of grievances is not enough to fuel militancy in the country but these can contribute towards the risk of conflict in the countries which are poor and developing.

In the Pakistan's government education sector; the mismanagement, corruption and political manipulation can lead to the people's sense of exclusion and frustration and which can ultimately cause them to develop grievances against their government. Unluckily, the culture of education system in Pakistan discourages the analytical and critical thinking. The Pakistan society has zero tolerance for any kind of conflict and the scope for formulation of new ideas and opportunities is very less too (Memon, 2007; Khan , 2016).

CHAPTER 5.

DATA ANALYSIS/DISCUSSION

This chapter consists of the analysis of data which is further followed by the research findings of the thesis. Primary data was gathered by conducting interviews of the educationists, doctors and engineers. Interview questions were opinion based which allowed the respondents to express themselves openly. Primary data was collected to answer the main research question that “are the graduates of hard sciences more inclined to radicalisation?” as the nature of research is empirical which includes interviews. The primary data has been analysed in this chapter in the light of literature review and the research questions.

Rose (2015) suggests that there might be a link between the teaching of certain kind of subjects and the radicalisation of youth. A specific type of education leads to the development of a certain mind-set of an individual. Education may be an important factor for an individual’s tilt to radicalisation;, Rose (2015) argues. The interview question based on the literature was asked from the respondents to know their viewpoint that is there any kind of connection between the tertiary education and the radicalisation. A respondent who is a Phd Professor of computer science at SEECS, Nust said that a person who is well-informed about the world and who understands the complexities of the world is difficult to be radicalised. He said that if a person has a habit to read on regular basis about the various issues of the world besides academic studies and has the ability to comprehend them then he/she is not an easy prey for the terrorists ‘groups.

Dr.EmadUddin; an assistant professor and HOD of the Department of Mechanical Engineering at Nust gave comprehensive view points on the questions asked. He said that if an educated person develops certain extremist or radical viewpoints then he is going to be get radicalised easily because he has access to more tools as compared to an uneducated person. He further added that education brings awareness and there are various other background factors too responsible for an individual’s incline to radicalisation. Another respondent who requested to keep his identity private is an HOD of an engineering department; he said that education is not the factor leading to radicalisation as education enlightens a person; means he has the ability to differentiate between the right and wrong. He said that as per his opinion education is not responsible but

there could be the interpretation of religion in a different dimension by an individual who is being radicalised. He said that education would always oppose and rejects any kind of violent and the extremist elements.

Education is the central tool in the formulation of national identity as a large part of an individual's identity formation happens through the formal education process at school. It has been proposed that education must be regarded as a critical component for the societal transformations after the occurrence of a violent conflict. The deteriorating education system of Pakistan has radicalised many vulnerable young people because of being failed to equip them with the skills which are necessary for the contemporary economy. Education has the power to turn the population of any country into productive and beneficial human resource instead of being a burden on the state.

Dr. Bilal Ahmad, a Professor of Engineering department as well as Engineer by himself expressed his views openly. He said that as per his opinion the primary and secondary level of education has a vital role in making up the mindset of an individual as compared to the tertiary level of education. Dr. Bilal said that being a professor; he has observed many students who shows or possess the symptoms of radicalisation right from the first year of university. He further said that those kinds of symptoms may elevate in some individuals or depreciate in some in the years to follow. He agreed that there may be some elements in education that could lead to the radicalisation of individual but those starts from the primary level. And besides education, there are certain other factors too that are responsible for this trend. Dr. Salik said that there is no direct link between the education of an individual and the susceptibility to the radicalisation. He pointed out that the friends' circle of a person and the communication with the teachers' matters too. Dr. Zeeshan Ali Khan expressed his opinion by highlighting that "radicalisation is a state of mind and education is the training of the mind of an individual and there might be a vague link between the education of an individual and susceptibility to radicalisation but there is no direct link".

Large numbers of the extremists are usually highly educated as according to a study report in 2007; 48.5% of the terrorists recruited in the MENA Region were the university graduates and about 44% of them had studied the engineering. Some of the world's renowned terrorists from Osama bin Ladin to Mohammad Atta; all of them were the engineering graduates. This evidence

suggests that these prominent terrorists studied the technical subjects instead of the political or other religious courses. Moreover, Gambetta and Hertog outlined that engineers are present in larger number in the violent terrorist groups; although they are present in the non-violent groups too but to a far lesser degree (Gembetta&Hertog, 2007).

Moreover, Respondents were further questioned about their opinion that is the professionals like doctors and engineers more prone to be radicalised and do they have a distinct mindset as compared to the graduates of social sciences. The respondents of this category included the doctors, engineers and some of the Phd professors who had their bachelor degrees in medicine and engineering. Dr.Amna; an MBBS doctor at the Hitec Institute of Medical Sciences expressed her views. She said that the concept of radicalisation cannot be exclusively linked to some specific profession as there are various background elements too. She highlighted that an individual who is more exposed to the social injustices no matter the educational background of that person is more likely to be radicalised. Furthermore, she said that the because the students of social sciences view the society from a broader perspective as compared to the doctors and engineers so the mind-set of both are different. Another respondent who is a male doctor and requested to keep his identity private said that the concept that engineers/doctors have a distinct mindset varies from individual to individual. It depends on the intellectual capabilities and the thinking patterns of a person that how he views and comprehends the world from his own unique perspective.

Dr. SalehaGhaffor said that engineers and doctors have a different mindset because they possess more ethics and feel more responsibility towards the citizens. Another respondent who is an HOD and engineer by himself gave a different point of view; he said that engineers think more critically because of the technical education as compared to the graduates of other professions. He agreed that they have a distinct mindset but as per his view; they have more critical thinking capabilities. When he was asked to express his opinion on the fact that some research studies in the MENA region showed the immersion of engineering graduates in the larger proportion in terrorists groups; he said that the concept of radicalisation is not linked to the educational degree of an individual but the regional surroundings and the thinking of an individual matters too.

Dr. Salik Javed expressed his views by saying that the students of medicine and engineering are over-burdened by the studies and the societal pressure. They have less time to think and evaluate

the things around them as they are always busy with the studies. He further said that their mindset is different because they almost have no time for the social life and activities. Dr. Salik pointed out that because of the extreme pressure of studies on the students in medical colleges; they can get frustrated and it's a natural human phenomenon. Moreover, he said that the medical students don't have much time for the extracurricular activities and there is no concept to participate in the sports. He further added that the students of medical and engineering profession are more vulnerable and it could be the reason that the terrorist organisations target them more.

Dr. Bilal uttered his views by saying that it will be a superficial thing to say that only the type of education is becoming the source of radicalisation in the youth. Other factors like upbringing of an individual, family environment, social media, friends, interest and activities are also the essential elements to be considered. He agreed that the thinking patterns and the approach of hard sciences graduates towards the society are different as compared to the social science graduates. Another respondent, Dr Emad Uddin said that the mindset of engineering graduates is a bit different as they are more focused on the bigger picture as it's a part of their training. He also said that it varies from person to person and it depends on the interests of every individual. He further added that engineering graduates have more expectations regarding the career opportunities. The problems in the engineering studies are well-defined and there is usually one issue/problem which needs to be found out.

Another respondent, Dr. Umair said that it's not about the degree or the educational background of an individual but it is about the people who are influencing him. Moreover, he said that as per his opinion; engineering graduates are more logical and they have a distinct mindset. Dr. Zeeshan said that he could not see any reason that engineers and doctors are more prone to be radicalisation. There is no direct link between the education and radicalisation he said. Additionally, he said they have a distinct mindset and they possess a higher IQ level.

Humanism is the perspective which gives an open world view and it is about personal autonomy, personal power and the moral responsibility. The humanisation of education refers to such kind of education that espouses humanistic ideals and values in an individual. The aim of the education should not only be limited to the mastering of some scope of knowledge but the development of critical, analytical and problem solving skills is very necessary too. Education should enable an individual to think outside the box, to have a broader horizon and should be

able to analyse the societal problems and complexities. Though the high literacy rate within a country is not a guarantee to ensure the prosperity, peace, security and justice as there are various countries in the world which in spite of having a high literacy rate lacks peace and people even suffer to fulfill their basic needs.

Newmann (1852) proposes that the aim of the education should be the enlargement of mind of an individual. In true sense, the enlargement of mind is achieved by the experiences and practical application not only limited to the reading and the theoretical knowledge. Respondents were questioned about their viewpoint on the phenomenon that various scholars believe there is a need to humanise the hard sciences including medical studies, engineering and the natural sciences. The term humanisation of education system was being explained to every respondent so that they could answer the question without any ambiguity. Dr. Bilal expressed his views by saying that in the Engineering studies; some subjects like Ethics, Islamic Studies and the communication skills development are included in the curriculum just to dilute the hard core nature of the sciences towards the softer science that but that alone is not enough. He added that there is a need to improve the Engineering curriculum and workshops on regular basis could be helpful in this regard.

Dr. Emad Uddin said that the tertiary level of education is too late to instill the moral values in the students as primary and secondary level acts as a base for an individual's intellectual and character development. He further added that every discipline whether it's hard sciences or soft sciences needs to take different initiatives which involve the practical work. Dr. Emad said that humanity cannot be developed in an individual by just educating or teaching him but there need to be some initiatives where the students be assigned with the tasks to do humanitarian work and visit the conflict affected areas. He stressed that: "when the students will see the people suffering while they are a living a comfortable and peaceful life; it could prove to be a trigger for the development of empathy in them towards other human beings".

Another respondent who is an HOD of engineering department said that in our society the more focus is on getting education for the sake of a degree and the focus on the learning is very less. The soft skills and the research skills need to be instigated into the students. Dr. Umair said that "University is a place where you create knowledge and build character". He said that it is the basic definition of University according to him. He further added that by creating knowledge

means to do quality and productive research. Furthermore, he said to develop critical and analytical thinking skills; freedom should be given to the students to ask the questions and the opinions should not be imposed upon them. Dr. Umair further said that an environment in which a child is brought up influences him more than the other factors. The development of the mindset of an individual starts from his home as he spends the initial years of his life nearly completely in the home; so the family environment, customs and norms have a significant influence on him.

Freire (1974) has argued that an educational approach is needed which enable the people to discuss the problems openly and courageously debate. Education should empower the students to discuss and resolve their own problems instead of relying on decisions or the solutions proposed by others. Freire's approach is about empowering the students to construct their own knowledge by experiences and thinking. He emphasized that student and teacher share the responsibility of managing and directing the learning process. He perceived education as the practice to attain freedom and he also emphasized on the necessity to establish the limits to this freedom. The development of democratic relations is significant between the student and teacher in the democratic education

The critical and analytical thinking skills can flourish in the society where the people can freely debate and argue on their own viewpoints and ideas. The Pakistani society lacks this aspect of free debate because of the intolerant attitude of the majority of population. Furthermore, a quote of Richard Feynman can be mentioned to analyse the critical thinking and the quality of research in Pakistan. As Richard Feynman quotes; "there is no learning without having to pose a question and the question requires a doubt and I can live without doubt and uncertainty. I think; it's much more interesting to live not knowing them than to have the answers which might be wrong." As the research begins with the doubt and the doubt leads to the questioning and arguing. The lack of questioning culture has deeply hindered the students' ability to learn new things and to think outside of the box. The rise of curiosity and doubt leads to the investigation which further leads to the research. If there is no desire to investigate, question and doubt; then how there will be the research of quality and the development of analytical and critical thinking skills in the students.

Bertrand Russell's conception of the human excellence is of the blending of the four qualities which include courage, intelligence, vitality and the sensitiveness. He attributed all of these abilities as the basis of an ideal character of an individual. He has given the generalisations and

the general observations on the basis of human psychology and the common sense (Nicolaidis, 2017).

Furthermore, respondents were asked their opinion generally on developing the critical and analytical thinking skills in students. A respondent, Dr. Fahad said that the critical and analytical thinking skills can be developed by giving students the problems where they are forced to think outside the box. This will help the students to formulate their own ideas and have their own viewpoints on the various problems. Dr. Emad said that to develop the critical thinking skills in students; they should be given the open ended problems to resolve. He further added that the students should be given a group project where the students of various disciplines including business administration, biosciences, engineering and social sciences could work together. This would allow the students to learn and share their thoughts with each other belonging to different academic departments. In this way; they will be able to learn from each other because of their unique academic backgrounds. Another respondent belonging to engineering background said that the engineers think more critically and they are more logical as per his opinion.

As Albert Einstein said that “education is not the learning of the facts but the training of the mind to think”. The word critical has negative and positive connotations and being critical means to weigh up the particular evidence and the arguments for and against an idea.

Dr. Salik pointed out that there is a need to develop critical and analytical thinking skills in the society too as there is so much intolerance in the people. It's very risky to even talk on the religious matters openly. He further added that the same people who show intolerant attitudes in our society when go abroad; they become totally different and discuss everything without getting annoyed or intolerant. So the problem actually exists in the society; people need to be more tolerant and patient towards each other and it is necessary to respect the opinion of every person. He said that though the critical thinking skills needs to be developed in an individual from the primary level but it is possible to develop these skills at the tertiary level too by proper implementation. Dr. Zeeshan said that the educationists should be trained to develop critical and analytical thinking skills in the students. He emphasized on the training of faculty members too. He further said that students are under a lot of pressure and they are overloaded with the assignments and projects.

As Feynman believed; that “doubt” is the foundation stone of all the learning and all the emergence of thought process (Bari, 2017). Students should be able to get engaged critically with whatever they learn. Moreover, the higher education commission has always adopted the functional approach to the kind of education the students should get. A quick look at the HEC’s draft vision 2025 shows that the HEC is more focused on producing the doctors, engineers and technicians. They are not concerned about the development of general capabilities in the students and the skills they need to survive the real world.

Lastly, the respondents were asked that according to them what kind of education reforms are needed at the tertiary level of education system in Pakistan. Dr. Emad Uddin expressed his viewpoint on the need to bring education reforms by saying that there should be panel and group discussions in the educational institutes to allow the students and faculty to interact and express openly on the matters of concern. The interaction and the relationship between faculty and students need to be improved too. He added that the universities should have their own talk shows that allow the students to participate. There should be a forum where the societal problems should be discussed which otherwise are not allowed/encouraged to openly discuss in the society.

Dr. Zeeshan said that according to him the most significant educational reform to bring specially in the engineering studies is to diminish the work-load on students. He said that there is too much pressure and work to do in the engineering studies and they have very less time for the other activities. He added that it’s a key thing which needs to be reformed in the education as per his opinion. Another respondent who is working in Educational reforms and policies sector and holds a Phd degree too said that " Peace through education can only be achieved by implementing the education reforms in true sense which means to have the will and dedication to implement the already existing policies in the country". He also stressed on the need that we need to reform the education system starting from the primary level and any kind of content provoking hatred and intolerance should be removed.

On the question of educational reforms; Dr. Salik expressed his views that there is a greater need to focus on the research and without the development of research skills in the medical profession; the progress is hard to attain. Moreover, the students should be taught to think outside the box and have their own independent thinking. He said; the most important aspect

which needs due attention is that our educational system is lagging behind in the research. Quality research is something that should be the main goal instead of just focusing on producing the numbers of research papers. Dr.Umair said the faculty should be improved and trained to bring reforms in the education sector. He mentioned a positivity of the society by saying that within past few years; there is a lot of change in the thinking patters of people and the younger generation is very much clear about their goals and thinking. He further said that education polishes an individual and enables him to become a better citizen and a person. He said that “we as a society lack behind in the development of soft skills and we really don’t know how to communicate with each other”. He also stressed on the need to bring reforms in the research sector and said there is a need to enhance the culture of research in our society.

The collective view point of the respondents showed that solely the education is not responsible for the emergence of violent tendencies in an individual whether he studies hard sciences or the soft sciences. Most of them said that there is no direct link between the educational background of an individual and the emergence of radical sentiments in him. But there are certain background factors, social circle, family environment, upbringing and other psychological, religious approach, and economic aspects which lead towards this phenomenon. Some of them said that if a region has more percentage of hard sciences graduates in the terrorists groups then the regional factors could be responsible for this too. As every region of the world is different from the other regions and have its own unique pros and cons. So if a region has a higher percentage of some particular discipline of students then the teaching and the over-all pattern of those subjects might be different there as compared to other regions.

Though; some respondents agreed that the students of engineering and medical disciplines are over-loaded by academic work so they have less time to socialise and interact with other people. They don’t have much time to think and observe the societal problems as they are too much indulged in their studies. Because of the pressure of family and studies over them; they become vulnerable. The terrorists group is specifically targeting this educational category of youth because they know about their vulnerability. Some of them also recommended that the youth should be given the human rights education in the universities which would help them to counter any kind of negative influence such as the extremist ideologies. Development of the peaceful conflict resolution skills is necessary in the youth to enable them to peacefully interact with

others and express their opinions. Emergence of these competencies in the youth will help them to reject the calls of violence and the intolerant behavior towards other people. In a nutshell, it's not only about the type of education a person has but there are various influential factors responsible for an individual's pathway towards radicalisation.

CHAPTER 6.

RECOMMENDATIONS:

6.1 How education can be humanised

A humanistic perspective on education includes the three types of learning which includes: democratic learning, reflective learning and the dialogical learning. Reflective learning means to articulate one's own feelings, moral values, ethical concerns and the interests. Moreover, to regulate one's own learning process and to take responsibility for one's autonomy and to reflect on to one's own learning process and inquire into the self-identity is called as the reflective learning process.

The concept of critical pedagogy is to empower and to humanize the learners. This concept of critical pedagogy is associated with the renowned activist and the educator Paulo Freire. He started using the principles of critical theory; which is concerned with the idea of the establishment of a just society in which people have cultural, political and the economic control over their lives. Moreover, the major goals of the critical pedagogy are the rejection of violence, hatred, consciousness raising and the negation of discrimination against other people. Freire's ideas to reform the education system are very popular around the world and have been used widely to formulate various educational reform programs. His ideas have been adapted in Latin America, North America and many parts of the Europe.

Furthermore, education has the capability to bring peace and also to bring violence in a society which means it has two faces. For instance; unequal access to quality education, use of curriculum for political purposes and the unequal distribution of resources can lead to the destructive role of education. While on the positive side it can bring peace and humanistic ideals by cultivating the students with the capacity to challenge the injustices and the repressive social circumstances in the society (Buckland, 2004; Gilla & Niens, 2014).

Educational policies should be reviewed and examined critically in order to check their potential to ameliorate or to aggravate the conflict. Critical questions must be posed to interrogate the content of education in order to ensure that it's an avenue to bring peace rather than to cause violence and war. The peace oriented pedagogy is characterized by the critical thinking,

dialogue, participation and the cooperative learning environments. Pedagogical approaches to the peace building center on the education for peace which is characterized by the development of values such as humanization. For the aim of peace building pedagogical practices through humanization are categorized by the shared humanity, reconciliation, and respect for human dignity and a vision for the establishment of a humane society. Education as humanization requires a focus on the awareness rising of the human values and the re-building of the human relationships. Freire (1996) believed that education is a collaborative process and he further argued that the main key to conflict transformation is a three phased process of humanization which involves critical thinking, dialogue and action. Humanizing the education can help to develop the just and peaceful societies that could help to connect and unite the human beings. Education is the key element to promote humanizing agenda in a society.

From a humanistic perspective, education focuses on the development of affection, empowerment, autonomy, rationality and a concern for humanity. Another challenge in the establishment of humanistic thinking is the linking of humanity and the autonomy. Autonomy implies the possibility to take the responsibility of one's own life and the ideas.

The introduction of democratic education into the educational curriculum requires confidence, cooperation, openness, trustfulness and responsibility. Both the faculty and students need to seriously take into account about the implementation of democratic education. Freire (1992) emphasized that the democratic education does not mean that the act of learning, teaching and studying is pure fun. It is a pleasant task but still hard, meaningful and very demanding too. To ensure the correct implementation of the democratic education; a clear understanding of the concept is needed to be understood by all those who are involved in the learning process.

Educational institutes can either be a place to humanise or de-humanise the individuals and it can be a place for dominating or liberating the students. An educational approach to seek freedom, authority, peace and democracy is needed. Freire's educational concept is that no matter how much a man is ignorant is capable of critically looking into the world's problems. An education in true sense is which liberates the individual instead of subjugating and standardizing him.

The basic aim of the education is not merely learning but the kind of learning that comes from the critical examination of the social order of the society(Ares, 2006). It should enable the

students to become critically thinking citizens who can actively take part in the democratic life and have the encouraging discussions with each other. The idea to implement the critical pedagogy should be based on the authentic materials which are representatives of the culture of society. The kind of learning that takes place through the problem solving and the practical application of the skills lead the students to determine their position and experience in the society. A humanistic perspective of education embraces the participation dialogue perspectives and the moral sensitivity. Humanistic thinking has always been contributed an important role to the education.

One of the major educational goals is the improvement and the development of reasoning skills within an individual. There should be Interactive learning methods between the students and the teachers that would enable the students to ask questions freely. This would lead to the lessening of the communication gap between the student and teacher and they can have discussions.

While the democratic learning involves the appreciation of diversity, concern for others, involvement to enlarge the humanity, to build democracy and to stand for one's own independence. The dialogical kind of learning includes being communicative with people in an open way and then compare and analyse the different perspectives. The analysis of political, social and cultural power relations is also involved in dialogical learning. All of these kinds of learning processes are at the heart of the humanistic education (Veugelers, 2011).

Thinking is the human brain's activity that distinguishes him from the other animals and any person with high thinking skills can help him to solve the problems quickly. Therefore, for the educational development; there is need to have greater emphasis on the development of thinking skills. The nature of the aim of education is to learn continuously and to be able to have continued capacity for growth. Another significant tool to tackle the radicalisation is to provide youth with the comprehensive human rights education. Moreover, social and the emotional literacy are the crucial factors to enable the younger generation to make sane decisions for the society and for themselves.

The first goal of the education is so traditionally obvious that is "what to think" and to achieve this goal; the students and instructors focus all their energies on acquiring and transmitting their basic knowledge. While the second goal of education is "how to think" or the critical thinking; it

is often ignored by the instructors and students also fails to realize the absence of this goal. Rather than filling the graduates with the knowledge which may or may not be beneficial in the future, there is an urgent need to encompass them with the skills to judge, to be flexible and to critique the knowledge that they possess. They should be the critical judges and be able to make the decisions rather than just the passive receptors of information. Practicing the critical thinking changes the learners from just being the passive receivers of information into the critical thinkers.

6.2 How critical/analytical thinking skills can be developed

The idea of critical thinking is about the ability to think rationally, clearly and logically. It's a topic of debate in the academic world since the time of early philosophers like Socrates and Plato. Critical thinking can also be defined as the ability to be get engaged in the independent and the reflective thinking. It enables an individual to become an active learner instead of being just a passive recipient of information. Rather than just relying on the instinct or intuition; critical thinkers analyse and identify the problems. Any person who thinks critically can gather the relevant information, can ask the particular questions, can reason logically from the information he gathers and can come to the reliable conclusions about the world we live in. The true critical thinking enables an individual to become a responsible citizen and not just the mere consumer of the society's resources. It's the ability to think for one-self and to responsibly and reliably make the decisions that could affect one's life. It is also termed as the critical inquiry which means that critical thinkers investigate the problems, discover the new information, and question the traditional beliefs and the authorities and pose the new answers that could challenge the status quo. Most people in a society are the followers and they do not question the authority, they are not curious and they do not challenge the authority who claim that knowledge. Therefore, they do not think for themselves and rely on the others. Most of the people indulge in emotional, wishful and hopeful thinking and they do not think critically. A workable culture or a society can tolerate only a small number of critical thinkers.

The aim of the critical thinking is to achieve the best possible outcomes in any kind of situation. Sometimes, the critical thinking is contrasted with the issue analysis, problem solving, inquiry and the decision making. One needs to be creative too in order to critically analyse the issues and problems. Consequently, creativity plays a very significant role in thinking critically about the

problems. One of the famous contributors to the idea of critical thinking is Robert Ennis; who defined critical thinking as “the reasonable and the reflective thinking that is focused on deciding what to do or believe”. Actually, the critical thinking skills are the problem solving skills that results into the reliable knowledge. As the humans constantly process the information; so the critical thinking is the practice of processing that information into an accurate and skillful way possible that would lead to the emergence of logical and reliable conclusions.

Siegel (1988) has defined critical thinking as “the process which is comprised of two components; the desire, willingness and the disposition to base one’s beliefs and actions on reasons and the ability to evaluate the reasons properly”(Siegel, 1988). Moreover, it is defined as thinking in such a way to fulfill the relevant standards of good thinking that gives the criteria that what attributes are necessary for the critical thinkers. In every area of intelligent human inquiry and practice including law, science, art and the morality embodies within it the practices of criticism by which the proposed conclusions are tested and the previously accepted beliefs are revised and criticized. All of these standards must be learned by the critical thinkers, these include not just the rules of logic but the standards of argumentation, standards of practical deliberation and the standards which are being used in developing the plans of action. Some of the important habits and attitudes required for the critical thinkers include an inquiring attitude, an intellectual work ethic, open-mindedness, respect for the truth and reason and respect for the legitimate intellectual authority(Bailin, 2010).

Bertrand Russell’s interest in education has led him to write extensively on the education beginning from the birth of a child to the intellectual development and the character formation of an individual. The writings of Russell on Education are not only for the philosophers but also for the common people who want to bring a change in the field of education. He defines education as the formation by the means of interaction, of certain kind of mental habits and the certain type of outlook on the life and the world. He is of the opinion that the education for any individual is actually the education to bring the change in the society.

For the solution of social problems in the society, Russell has put forward that the reforms in education are needed. He has suggested a set of qualities which needs to be nurtured into the individual for the development of an ideal characters comprising of justice, independence, boldness of thought, reverence and the constructive thoughts. He said that the education should

enable and encourage the love of mental adventure within an individual. In an essay of Russell titled “Education and Discipline”, he emphasized that the basic purpose of education is civilization which means an amalgamation of individual and a citizen is very significant. He visualizes the significant influence that the education capable of bringing in the society. He is a firm believer that the reforms in the education can bring reforms in the state (Carlisle, 2014).

Education actually points to a desirable state of the mind which refers to the attainments of the capability of action, the intellectual capacity and the moral behavior. The emergence of the abilities like creative thinking, being compassionate towards others, critical thinking is significant to develop within an individual that would help him to make the meaningful choice in life. The curriculum should help the students to think well for themselves and for others. Education should enable the graduates to think smarter and to have good thinking capabilities.

There is an urgent need to promote the culture of healthy debates and the active thinking skills in the students to become the best version of them. The term critical thinking has to do with the judgment, reasoning and evaluation which mean the improvement in the thinking of an individual and upgrade of reflective element in the education is a practical place to begin(Lipman, 2003). An establishment of a program that leads to the independent and the reflective thinking on the various ethical dilemmas and the problems is required at the higher education level. To teach the students to think critically probably lies in making them enable to develop the right kind of thinking at the right time.

Critical thinking cannot be only taught by the lecturing but it is actually an active process of learning. The intellectual skills of critical thinking which are analysis, reflection and synthesis must be learned by actually learning them in a practical way. Universities should encourage the students to become independent learners and critical thinking is central to this phenomenon. When someone is able to evaluate, analyse and synthesize the information being gathered from a variety of different sources then present his own justified interpretation of the information then he is called as the independent learner. This is also known as employing the high order thinking skills in an individual. Development of critical thinking skills within a person will help him to produce more logical and reasoned arguments. The cognitive skills and the dispositions are important in critical thinking. The dispositions involve flexibility, open and fair-mindedness, a need to be well-informed, respect for diverse view points and the habits of mind. Creativity

within an individual requires the ability to critically evaluate the intellectual capabilities. The ability to think critically is a skill which is very necessary to make the good judgments both in the professional and the personal life of an individual. The society needs more and more people who are able to make good judgments without allowing any kind of personal ideas or the beliefs to cloud their judgments.

Moreover, for the development of critical and analytical thinking skills; another very important thing is to offer a discussion of various social problems. Whether it's the social sciences or the hard sciences; a debate on the multiple crises in the society will lead to the emergence of the thought process in the students. Another very significant thing that needs to be taught is the tolerant and patient attitude towards the other people's opinions and ideas. Students should have the patience to listen to the ideas and viewpoints of others and observe and experiment it by themselves before disapproving. In the case of Pakistan, it's necessary to develop the critical thinking skills in the students from the primary level of education. Such kind of problem solving skills needs to be developed in the children that would help them in the future. If the government does not formulate any policies and the initiatives to reform the education from the grass root level then the graduates with the same confined minds and intolerant attitudes will keep on producing in the society, these graduates will have the same thinking patterns and have the particular narratives on the culture, history, religion and society which is being instilled in their minds since the primary level.

6.4 Education Reforms

Education is actually a backbone for the development of any country in the world. Pakistan is striving to curb radicalization and needs to come up with the mutual response of state and society to overcome youth radicalization. This can start with the reforming of Madrasah as well as the national curriculum of the education system.

For the development of a stable, prosperous and peaceful Pakistan; education reforms must have given a higher priority by all the stakeholders in the country. Furthermore, the debate to reform the education sector must not only be limited to the experts and the policy makers of education. A mutual effort by the policy makers inside and outside Pakistan is needed to implement the education reforms in a sense that can promote stability and peace. The quality education and the

content are significant in the establishment of peace and eradication of militancy from the country.

Pakistan is facing plenty of problems and complexities in the education domain and various education policies and strategies needs to devise to reform the education sector of the state. Unwavering commitment and the dedication are required to implement the reforms. Furthermore, the purpose of the educational institutions should be to develop the individuals mentally, socially, physically and the psychologically. Education should instill the people with the highest sense of responsibility, integrity, sense of honor and the selfless service to the nation. The existing education system in Pakistan is not meeting with the needs of the 21st century as the curriculum needs to be updated as per the requirements of the contemporary modern world. The present curriculum is pretty much outdated; it promotes the culture of memorisation and almost has no direct connection with the needs of practical life.

An Education Sector Reform plan was presented on 2002; it was aimed at modernizing and reforming the Education System of Pakistan. One of the major objective of this plan was to develop a more secular system of education by reforming the curriculum to curb the religious extremism in the country particularly in the wake of 9/11 attacks. But the plan was not really implemented and it did not bring any reforms in the education sector too.

First and the foremost taskare to implement the already existing education policies to overcome the alarming situation of education in the state. An initiative to increase the public expenditure on the education at the public school system is needed with particular emphasis on the upgrading of public school infrastructure and other essential requirements. Immediate political and legal action against the extremist organisations which are seeking to prevent the social and the education reforms initiatives in the society especially related to women is needed. Any kind of material encouraging the ethnic or sectarian bias, intolerant views and religious hatred should be immediately identified and removed from the national curriculum. The government should increase the domestic spending on the education sector. Moreover, the security officials and the experts should not overlook education as the strategy to create peace and peace and sustainability in the country. College and the universities should bring youth together for the interactive workshops and also initiate courses on the peace and conflict resolution.

The curriculum at all levels of education whether primary, secondary and tertiary needs to be updated according to the requirements of the modern world. It should be evaluated on the annual basis to keep it non-discriminatory by conducting a vast survey which would seek the opinion of the public. It should be made responsive, humanistic and meaningful according to the societal needs. The curriculum should be formulated in a way that it enable the youth to compete with the modern world and have skills and capabilities to face the practical life. The examination system of the state usually tests the memory of the students and it excludes the cognitive and the conceptual testing of the students. The government should not solely focus on the development of more and more universities in the country; the real thing is the quality education.

Moreover, the problem begins from the grass root level of education that is the primary level and it is significant to strengthen it too. The emphasis on tertiary education is not going to resolve the education crisis in Pakistan but the whole system needs to be strengthened beginning from the grass root level of education. Thus besides the development of more universities the government should concentrate on producing the quality education. There is an urgent need to reform the curricula of Islamiyat and the Pakistan studies and it should be revised according to the facts of the history and all the hatred promoting sentiments should be excluded. The true values that the religion promotes should be incorporated in the Islamic Studies instead of just focusing on the rituals. Both the private and the government schools in the country should have the same curriculum. The overall curriculum at all levels of education should be designed in way that promotes the religious tolerance, development of critical thinking and the respect for empathy and the diversity.

Globally, all of the educational systems prefer the hard sciences over soft sciences and the humanities. Another very general neglect in the Pakistani society is the way arts, social sciences and humanities are treated. There are few young people in the country that opt for the social sciences and humanities; mostly prefer to go for either medicine or engineering being considered the elite professions. Few students want to pursue a career in political science, media, development, Foreign Service and the technology. Social sciences impart the analytical and the critical thinking skills in the students which are needed for the nation building. The society needs more creative thinkers, security analysts, agricultural experts and the trained journalists. However, another major problem is that the retention of those who hold the unconventional

degrees like those in women rights, political science, and human rights law, international development because the state is unable to value and accommodate the graduates of these subjects. Education policy makers do not realise the value of these subjects and the significance of social scientists and artists in the society. The whole society is stressed to produce more engineering graduates without realising the importance of critical thinkers in the state. Though; the development of critical and analytical thinking skills is very much necessary in the hard sciences too.

CHAPTER 7.

CONCLUSION:

Education should enable the students to relate to the world around them and enable them to assess and deal with the differences. The basic challenge for the educational system is to incorporate the educational values into the educational learning process and to create such kind of pedagogical practices in which students are able to think and work in a reflective way to humanise the world. Today's world needs the kind of people who are reflective, critical and flexible. Students should be involved in the kind of communicative actions that challenge their values, ideas and that could help them to re-construct their own beliefs and ideas. There is a need for the moral judgment and the moral knowledge in education. The pedagogical goal must be to educate the young people to have an enquiring and a critical mind that would lead them to have courage and curiosity.

For the development and reform of higher education in Pakistan, it is the responsibility of the government to think outside the box. Furthermore, the education should be same for the people of all classes and there should not be any discrimination on the basis of class or gender. Most importantly, the change should begin from the primary level of education for the development of thinking minds. To produce the quality education in Pakistan, there is a greater need of complete overhauling from the roots to the top. To meet the national needs, it is significant to make essential investments in the educational curriculum and the higher education. In short, to bring the educational change in a society is a collective task. It requires the commitment, dedication, communication and re-evaluation by the respective educational agencies in the state. Likewise, the kind of approaches should be developed to expand the access of education to the neglected segments of the society.

Moreover, youth should be encouraged to promote and to embrace the democracy, peace and tolerance in the society. The ability to reflect, reason, to develop tolerance for others and to reject violence is necessary to be developed in the younger generation. In order to develop tolerance, understanding and respect among the various cultural and religious communities; intercultural dialogue and the mobilisation of the young people especially from the conflict affected areas is necessary. Ethnically mixed educational programs need to be initiated in this regard.

The training of faculty members is necessary too in generating the better and higher quality of education. The training should not only be limited to the theoretical one but practical session is necessary too. Another very significant education reform that is needed is the less political interference in the making of educational policies. This will help the educational system to function effectively and smoothly without any kind of discrimination. Recurrent political interruptions in the education system could lead to the emergence of corruption and other evils in the system. There is an urgent need to promote the culture of research in the educational institutions. To fulfill this purpose, the research oriented programs should be accelerated in the educational institutions especially at the higher level of education across the whole country.

For the research related programs, the government should increase its funding volume to the higher education commission of Pakistan. Furthermore, Pakistan can learn from the other countries where the successful education reforms programs have been implemented to humanise the education system. Thus, the research study argues that there is an urgent need to humanize the tertiary level education system in Pakistan and to analyse the sort of education contributing towards the increase of radicalisation. Moreover, the research concludes that there is no as such direct link between the type of education of an individual and the inclination to radicalisation. Though the hard sciences particularly engineering and medicine ignores the other subject areas and solely focus on just the things relevant to engineering and medicine. The students of these discipline are overly-burdened by their studies and don't have much time for the extra-curricular activities. The terrorists' organisations target them more because they seem vulnerable to them. Besides education, there are various other factors influencing them and becoming the cause of radicalisation in them.

Moreover, to promote critical thinking in true sense, it needs to be instigated into all the realms of society and not just confined to the education system. People are scared to express themselves on the religious matters because of the religious intolerance in the society. Every nation in the world has atheist but they cannot dare to come out and express their views openly in the Pakistani society. Furthermore, it's not only the religious realm but there are many other topics on which one cannot express his/her views openly in the society. There are only few safe topics on which one can have discussion in our country. So if the students are going to think critically; they will still be bounded because of the societal factors. Introducing critical thinking in the

higher education only is not going to resolve all the problems. Consequently, the critical thinking should be developed and implemented in all the domains of the society. Drastic changes and the measures are required in this regard and to expect the positive changes at the tertiary level of education; these critical thinking skills need to be implemented in the society too.

Further research is needed in this regard to comprehend the risk factors associated with the radicalisation of youth. Likewise, to understand the relationship between tertiary education and radicalisation in Pakistan, more qualitative in-depth research is required. There is an urgent need to look deep into the matter that why the terrorists organisations target a particular educational sector more than the other. More research is required in Pakistan to understand this phenomenon as in the context of Pakistan; significant research is needed in this regard. The present research had some limitations too which involved the shortage of time and less availability of professionals due to the summer vacations in the institutes. But this research has at least provided a gateway for the future research on the topic as anything related to the education and youth should be the priority of any nation.

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