

**Exploring the Strengths and Weaknesses of Technical
and Vocational Education and Training Programmes in
Nepal: Perception of Experienced TVET Experts**

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TABLE OF CONTENTS

Contents	Page number
<i>Table of contents</i>	2
<i>List of figures</i>	5
<i>List of tables</i>	5
<i>List of abbreviations</i>	6
<i>Abstract</i>	7
<i>Declaration</i>	8
<i>Copyright statement</i>	9
<i>Dedication</i>	10
<i>Acknowledgement</i>	11
<u>CHAPTER ONE: INTRODUCTION</u>	12
1.1 Background and rationale.....	12
1.2 Purpose of the research.....	14
1.3 Research questions.....	15
1.4 The context of the study.....	15
1.4.1 Introduction of technical and vocational education and training (TVET).....	16
1.4.2 Changing context of opportunities.....	17
1.5 Research outline.....	18
<u>CHAPTER TWO: LITERATURE REVIEW</u>	19
2.1 Role of TVET programmes.....	19
2.2 Current situations of TVET programmes.....	20
2.3 Challenges to TVET programmes.....	20
2.3.1 Application and selection of trainees.....	21
<u>CHAPTER THREE: RESEARCH METHODOLOGY</u>	23
3.1 Qualitative approach (rationale).....	23
3.2 Research design.....	25
3.3 Sampling.....	25
3.4 Data generation.....	27
3.4.1 Interview.....	27
3.4.1.1 Advantages and disadvantages.....	28

3.4.1.2 Interview guideline.....	28
3.4.1.3 Access to the participants.....	29
3.4.1.4 Gaining trust.....	29
3.4.1.5 Conduction of interview.....	30
3.4.1.4 Recording of the interview.....	31
3.5 Analysis.....	32
3.5.1 Rationale of choosing methods of analysis.....	33
3.5.2 Thematic analysis.....	33
3.5.3 Discourse analysis.....	34
3.6 Ethical considerations.....	35
3.7 Trustworthiness.....	36
<u>CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION.....</u>	38
4.1 Stages of thematic analysis.....	38
4.1.1 Stage one-listening, transcribing and reading.....	39
4.1.2 Stage two-developing themes and codes.....	39
4.1.2.1 Open coding.....	39
4.1.2.2 Axial coding.....	42
4.1.3 Stage three-using the code.....	49
4.2 Making sense of the data.....	49
4.2.1 Curriculum.....	50
4.2.2 Factors affecting graduate's quality.....	51
4.2.3 Linkages with the employers.....	55
4.2.4 Budget.....	57
4.2.5 Inclusion/exclusion.....	59
4.3 Ways to improve TVET programmes.....	60
4.3.1 Improving the quality.....	60
4.3.2 Generating the fund.....	61
4.3.3 Linking to the employers.....	61
4.3.4 Establishing a liaison unit.....	62
4.3.5 Using power wisely.....	62
<u>CHAPTER FIVE: DISCUSSION OF THE FINDINGS.....</u>	64
5.1 Strengths of TVET programmes.....	64
5.1.1 Instructors having good theoretical knowledge.....	64

5.1.2 Good reputation of TVET graduates.....	65
5.1.3 Having a good instructors training institute.....	65
5.1.4 Team working environment.....	65
5.2 Weaknesses of TVET programmes.....	66
5.2.1 Using of the years old curriculum.....	66
5.2.2 Weak linkages with the employers.....	66
5.2.3 Inadequate practical facilities.....	67
5.2.4 Poor understanding of the concept of inclusion.....	67
5.2.5 Inadequate practical skills in some instructors.....	67
5.2.6 Inadequate operating cost.....	68

CHAPTER SIX: REFLECTION AND CONCLUSION.....69

6.1 Reflection on the process.....	69
6.1.1 Sampling.....	69
6.1.2 Interviewing.....	69
6.1.3 Transcribing.....	69
6.1.4 Using NVivo.....	70
6.1.5 Analysing.....	70
6.1.6 Validating.....	71
6.2 Conclusion.....	71

REFERENCES.....74

Word count: 16,848 (chapter one to six)

LIST OF APPENDICES:

Appendix-A: Interview guide.....80
Appendix-B: Information sheet.....82
Appendix-C: Consent form.....84
Appendix-D: Thematic coding of interview transcripts.....85

LIST OF FIGURES:

Figure- 1: Graphical representation of the codes generated through open analysis...41
Figure-2: Relation between key themes and codes of interview data.....43

LIST OF TABLE:

Table-1: Thematic coding of the interview data.....44

List of Abbreviations

ANM : Auxiliary Nurse Midwife

CTEVT: Council for Technical Education and Vocational Training

FDI : Foreign Direct Investment

GCSE : General Certificate of Secondary Education

GDP : Gross Domestic Product

JTA : Junior Technical Assistant

JT : Junior Technician

OJT : On the Job Training

SLC : School Leaving Certificate

TITI : Training Institute for Technical Instruction

TSLC : Technical School Leaving Certificate

TVET : Technical and Vocational Education and Training

VE : Vocational Education

VTCD : Vocational Training and Community Development

Abstract

This study attempts to identify the strengths and weaknesses of technical and vocational education and training (TVET) programmes in Nepal as perceived by the TVET experts. It also seeks possible ways to improve TVET programmes in the future in terms of its quality, and relevancy. The data were generated through in-depth interviews with two key persons (principals) who have greater than fifteen years of work experience in TVET sector and belong to the public technical schools.

The analysis suggests the following strengths of TVET programmes: good theoretical knowledge of instructors with strong academic background; good quality instructors' training institutes; employers' positive image on the performance of TVET graduates; a good team work environment in the technical schools. On the other hand, using the same curricula for many years (at least since 5-6 years), inadequate practical facilities, weak linkages with the employers, lack of practical skills in some of the instructors, inadequate budget, an unhealthy practice of political power within the TVET institutions, and lack of awareness about the concept of inclusion are seen as weaknesses of existing TVET programmes.

In addition, some strategies also emerged from the analysis that might provide support for the improvement of TVET programmes in the future: curricula should be revised and updated; necessary trainings should be provided to the newly appointed instructors; adequate practical facilities should be managed to increase the training quality. Similarly, employers' representation in the school management committee should be increased and a liaison unit should be established to work as a bridge between TVET providers and employers that can help to strengthen their relationships through close coordination and communication. Besides, additional administrative expenses should be controlled, a separate commercial production unit should be established and more number of short courses training should be conducted to provide financial support for TVET programmes.

The findings of this study with regard to the strengths and weaknesses of current TVET programmes are indicatives. As a consumer of TVET products, employers' involvement and participation in TVET programmes seems highly significant. The current relationship between employers and TVET providers is complex and weak. Therefore, future work is needed for detailed investigation of the issues revolving around their relationships.

Declaration

It is declared that no portion of the work referred to in the dissertation has been submitted in support of an application for another degree or qualification of this or any other university or other institute of learning.

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Dedication

To my parents, *Harikala* and *Tikaram*. My father, the late Tikaram Khanal, who would have been very glad to see my achievement.

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Chapter One- Introduction

This chapter begins with the discussion of the background and rationale of the study. It presents the purpose and research questions. It also gives an account of the context. Finally, it concludes by outlining the chapters included in this research.

1.1 Background and rationale

This research project has two aims: to demonstrate a qualitative methodology and to explore the perceptions of strengths and weaknesses of Technical and Vocational Education and Training (TVET) programmes in Nepal. TVET in Nepal is expected to provide productive employment, self-employment, and income generation activities for livelihoods.

The author has worked for several years as an instructor, researcher and manager of different technical schools under the Council for Technical Education and Vocational Training (CTEVT) in Nepal, which has encouraged him to choose this topic of interest for the pilot project to investigate. This small scale research project may provide some insights to understand the current situation of TVET programmes through the experts' interviews.

The term TVET can be defined in various ways in national and international contexts. There is no universally agreed definition of TVET (Northern Ireland Assembly, 2008, p1). The following definition seems inclusive, broad and summarises the essence of technical and vocational education and training:

“Technical and vocational education is used as a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of

technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life. By contrast, Vocational Training (VT) is often used to describe short-term training in specific occupationally related skills” (UNESCO, 2010, p5 and UNESCO, 2004, p7).

In the Nepalese context, “all non-university education and training programmes, which prepare people for work, vocational training programmes, technical school programmes and technical diploma programmes under the technical schools are considered as TVET programmes ” (Sharma, 1999, p17). In this work, this definition has been adapted to understand the context of TVET programmes in Nepal.

Like other organization, in this evaluative and competitive world, educational institutions in general and TVET institutions in particular have to analyse their environment to identify the strengths and weaknesses in order to optimize their opportunities in the future.

It is well recognized that if TVET graduates are expected to be employable, their training needs to be of higher quality, more skills intensive and demand based; however most training in Nepal is conducted through a supply driven approach (Lamichhane, 2002, p18) which need to be improved and reformed. Therefore, before making any plans for the improvement, it is essential to understand the current situations of TVET programmes and its environment.

Identification of the strengths and weaknesses of technical and vocational education and training is poorly understood. To my knowledge, there are no studies that have identified the strengths and weaknesses of TVET programmes through a formal research process.

This study, therefore, intends to provide original information which may act as an opportunity for future study. In a similar vein, the study was conducted as a pilot programme which is expected to provide a basis for PhD research.

Moreover, this study is expected to make a significant contribution to an understanding of the strengths and weaknesses of the TVET programme in Nepal. At first glance, the outcomes of this study can facilitate minimising its weaknesses, and make appropriate use of its strengths in full capacity to improve the productivity of TVET sector. Secondly, the outcomes of the study would be helpful to TVET educators, education policy makers, implementers and users; particularly directors, principals, instructors and administrators in developing new strategies for making TVET programmes more practical, market oriented and more productive.

In addition, it would have a long- term impact on the trainees as they would receive relevant skills, and their investment on TVET sector would be more productive. On the other hand, employers would get well equipped human resources with relevant skills which would help to increase the productivity of their enterprises. Finally, the international community would have a good knowledge about the environment of TVET programmes that can be taken as a reference in other developing countries that are similar in many aspects such as culture, technology and economy.

1.2 Purpose of the research

The main aim of this study is to explore the perceptions of strengths and weaknesses of TVET programmes in Nepal. The specific objectives are as follows:

- To identify the strengths and weaknesses of technical and vocational education and training programme in Nepal.
- To provide some suggestions for the further improvement

1.3 Research questions

The following research questions are derived from the main aim of the study:

- What are the perceptions of strengths and weaknesses of technical and vocational education and training in Nepal?
- How can TVET programmes in Nepal be improved?

These research questions are expected to provide a framework for searching the literatures in this study. Now the context of the study will be discussed in detail.

1.4 The context of the study

Nepal is among the poorest countries in the world with a predominantly agricultural economy which contributes around 38% of Gross Domestic Product (GDP). The GDP growth rate in 2009 was 4.7% (Asian Development Bank Outlook, 2010) and the human population size was 27.5 million (UNFPA, 2009). However, the GDP contribution of the agriculture sector to the national economy is changing which was 52% in 1990 (Ministry of Finance, 2002), and reduced to about 38% in 2007. Industrial growth is gradually developing.

The estimated unemployment growth rate is 6% at a national level (UNESCO, 2006). Only 47% of the total economically active labour force is fully employed (Ahmad, 2005). Around 300,000 people have become unemployed every year (Swiss Development Cooperation, 1999; Poudyal, 2002, p55). Similarly, 150,000 students fail the School Leaving Certificate (SLC) exam (Dhungel, 2009, p21) every year. Most of them want to join in TVET programmes. In this context, TVET in Nepal has been an alternative education for SLC failure but the access of quality TVET to all these young people is too

far away because the total enrolment capacity of trainees in public institutions is about 1200 and in private institution is about 8500 per year (Sharma, 2009, p27).

1.4.1 Introduction of TVET

The Council for Technical Education and Vocational Training (CTEVT) is the policy formulation and coordination body for technical education and vocational training programmes in Nepal. CTEVT runs 15 public technical schools, 2 vocational training for community development VTCD centres, 7 polytechnics, one training institute for technical instruction (TITI) and more than 182 affiliated private technical institutions including three year diploma programmes in about 20 various technical and vocational areas (Sharma, 2009, p27).

As defined in the background section, in the context of Nepal, technical and vocational education and training programmes include all non-university education and training programmes which prepare people for work (Sharma, 2009, p25). Under these criteria, TVET institutions in Nepal offer three types of training: short course vocational training, Technical School Leaving Certificate (TSLC) and diploma programmes. The course duration of TSLC and the diploma programme is two and three years respectively.

The importance of TVET in Nepal is enhanced by the low level of education and socio-economic situation of the people in the society. It is therefore taken as one of the important means of poverty reduction. It is also believed that the access to quality TVET can provide a more secure livelihood to the poor. In this context, education and training is an important component of poverty alleviation programmes (Sharma, 1999, p3). In addition to getting employment opportunities in national and international markets, skilled people who would

be self-employed in the informal sector can be more organized and enabled to generate a higher income (Asian Development Bank, 2004).

1.4.2 Changing context of opportunities

The government of Nepal has adopted the liberal market led economic policy and recognized that Foreign Direct Investment (FDI) is one of the important engines of economic development (Rana & Pradhan, 2005), demanding a lot of skilled manpower which is currently lacking in Nepal. Upgrading skills for more remunerative employment in global competitive market is essential: overseas migration has emerged as a major source of employment for Nepalese workers over the past decades, contributing about 14.2% of GDP through remittance in Fiscal Year 2007 (Asian Development Outlook, 2008). During the tenth plan period (2003-2007), following vocational and skills development technical training, about 800,000 youth have gone abroad for jobs after receiving permits (National Planning Commission, 2008). This indicates that the international labour market has been one of the potential places for earning and employment.

During the past, the focus on Technical and Vocational Education and Training (TVET) in Nepal has been to meet governmental organisational needs, rather than to meet the needs of private business and industry (Rana & Pradhan, 2005). Now, the situation has changed; after the recognition of FDI in Nepal, the demand of skilled human resources is increasing in the private sector. In this context, the employment opportunities are shifting from the government sector to the private sector and also from the agriculture sector to the non-agriculture sector.

Technological advancement and global economic competition are placing increased pressure in Nepal to produce highly trained scientific and management personnel as well as highly productive skilled and semi-skilled workers who will have some chance of participating in the world economic system. Therefore, it is extremely important to diversify, reform, and improve TVET programmes in order to meet individual employment needs and national development needs. Before initiating any action towards improvement, it is essential to understand the strengths and weaknesses of TVET programmes which can provide a strong base for developing the strategic plan for the future. However, investigation of strengths and weaknesses is a useful way of examining current environmental situations around programmes offerings and reforms.

1.5 Research outline

This work consists of the chapters: introduction, literature review, methodology, data analysis, discussion of the findings and reflection and conclusion. Besides, it attaches the appendices that present the evidence and important material which are unavailable elsewhere in the main body of the study. A detailed outline of each chapter is given at the beginning of each chapter.

Chapter Two - Literature Review (brief)

This chapter reviews the relevant literatures. The review starts from the role of technical and vocational education and training in terms of its importance for economic development and employment promotion. Secondly, it describes the current situation in a Nepalese context. Finally, it ends with describing the challenges faced by the TVET programmes. During the search, an attempt was made to identify what does and does not exist in the literatures regarding the topic of the study.

2.1 Role of TVET programmes

The role of technical education and vocational training (TEVT) in the economic development of both developed and developing countries has been well recognised (Middleton, Ziderman & Adams, 1993; World Bank, 1991; Ashton & Green, 1996; Tilak, 2002). Since about 80% of jobs worldwide require technical and vocational skills (Maclean, 2007), TVET is a direct means for people to acquire these skills, providing them with better opportunities for employment and re-employment, and to function in modern societies (Colin, 1999).

TVET offers sequences of courses directly related to the preparing of individuals for employment in emerging occupations (Atari *et al.*, 2010). Due to the continuous changes in technologies, the labour market environment is also changing. “Without a workforce that is continuously acquiring new skills, it would be difficult to reap most of the returns from technological progress (Booth and Snower, 1996, p1).

Due to the scarcity of skilled workers, Nepal’s economic development is impeded (Asian Development Bank, 2002); despite the high unemployment rate, there is a chronic shortage of skilled or professionally qualified workers which is shown by widespread use of non-

Nepali workers in different part of the country for example, Terai and Kathmandu (Gajurel, 2002).

2.2 Current situation of TVET programmes

In Nepal, most TVET programmes are conducted on a supply driven approach; as a result, a gap exists between market reality and skill development (Jaeger, 2000). The course offerings are usually based more on the area's expertise and interest of the training staff, rather than based on the demands of the labour market (Sharma, 1999). Therefore, the existing TVET programmes are not sufficiently relevant to the skills required by enterprises (Lamichhane, 2002, p19; Dahal, 2001, p21; and Poudyal, 2002, p58).

There is a need for alliance (Lamichhane, 2002, p19) between TVET providers and employers to reduce the skills gap in TVET graduates because they are producers and consumers respectively.

In an increasingly global environment, educational institutions (like other social institutions) are pressured to be more 'efficient', work better with less funding, meet the needs of the market and engage in never-ending quality improvement efforts (Welch, 1998 cited in Bevans-Gonzales and Nair, 2004, p163).

2.3 Challenges to TVET programmes

In a time of continuous economic, social and technological change, skills and knowledge become quickly out-of-date, demanding changes in education and training to create a productive and flexible workforce (UNESCO & ILO, 2002). Technological change has also shifted demand towards higher skills in the labour force (World Bank, 2002). Therefore, the existing TVET system has been increasingly challenged to demonstrate its

relevance to the rapidly changing labour market environment (Poudyal, 2002). Moreover, Lamichhane (2006) has characterized Nepal's TVET programmes as lacking in relevance, being undersupplied, exclusive and underfunded.

Nevertheless, the frequently changing market demands for technical and vocational skills pose a continuing challenge in assessing needs and making timely provision of such skills (Ministry of Education, 2009, p34). Therefore, it is important to identify strengths and weaknesses of the existing TVET programmes to be better prepared to face the challenges of getting employment opportunities in the national and international employment market.

Another challenge is that the access to quality TVET seems too far for Nepali youths who are in severe needs of skills and knowledge required for employment and self-employment (Dhungel, 2009, p21). The main reason is the low number of public technical schools with low enrolment capacities. For the last three decades, no more than 15 technical schools have been operating in the public sector because a significant amount of investment is required in the establishment and operation of technical institutions, and the government is not spending a sufficient amount of the budget on the expansion of technical school programmes (Sharma, 2009, p28); a large amount of the share of the total budget is spent on basic and primary education. However, the current TVET in Nepal has limited capacity and resources to accommodate the huge mass seeking technical and vocational education and training (Acharya, 2009, p51).

2.3.1 Application and selection

The courses of technical and vocational education and training programmes are so competitive. During the trainees' selection, in some technical schools, a large number of applications are received, whereas in comparison the actual potential capacity is very low.

Therefore, very few people get admitted on TVET programmes. Technical schools should have to bear a lot of political pressures during this time because of high demand of the trainings. Still, many people are away from the access of training information; for example, trainings are advertised generally in the national newspaper, which are far from the access of poor and rural people (Lamichhane, 2006).

Nevertheless, this brief review of literatures has helped to further understanding of the contexts of technical and vocational education and training programme in Nepal.

Chapter Three- Research Methodology

This study aims to demonstrate an understanding of research methodology as well as to explore the perceptions of the strengths and weaknesses of TVET programmes. In addition to this, as stated earlier, this study will also constitute a pilot study for my PhD research. Therefore, the methodological understanding is considered as an important aspect which the researcher tried to explore in more detail in this chapter. It explains the rationale of a qualitative approach for data generation and analysis in relation to the research questions. It also presents a brief account of the suitability of the combination of thematic and discourse analysis for the data analysis. In addition, it discusses the ethical issues and issues of trustworthiness of the research and how these issues were dealt with. In a nutshell, it explains why particular methods and techniques were employed for data generation and analysis and how related issues were dealt during the investigation.

3.1 Qualitative approach (rationale)

The qualitative approach was chosen because it can provide a deeper understanding (Silverman, 2000, p8) of social phenomena than would be obtained from quantitative data. The interest of the qualitative researchers is to understand people's experience in context (Maykut and Morehouse, 1994, p45). In fact, the choice of using this approach is determined by the research question and purpose, rather than by prior preference of the researcher (Bazeley, 2007, p2). He further states that this approach is chosen in situations where a detailed understanding of a process or experience is wanted, where more information is needed to determine the exact nature of the issue being investigated or where the only information available is in non-numeric form.

According to Creswell (2007, p39), it is used when a problem or issue needs to be 'explored'. The qualitative approach is best viewed from some analytically defined perspective rather than a set of freestanding techniques (Denzin and Lincoln 2003, p359).

In addition to the above, this approach is used in the phenomena of interest where people are the participants (Maykut and Morehouse, 1994, p44). Lincoln and Guba (1985) highlight that qualitative researchers develop a general focus of inquiry that helps to guide the discovery of what is to be known about some social phenomenon and they are interested in investigating and responding to exploratory and descriptive questions. Outcomes of any qualitative research are not the generalization of results but a deeper understanding of experience from the perspectives of the participants selected for study (Maykut and Morehouse, 1994, p44). In summary, the interest of the researchers in this approach is to understand people's experience and perception in the context. The aim of this inquiry is to understand and explore the perceptions of strengths and weaknesses of TVET programmes in Nepal.

In addition, programme evaluation is a major site of qualitative research, and the researcher can influence social policy in important ways (Denzin and Lincoln, 1998, p30). Linking to this statement, exploring the strengths and weaknesses is therefore a constituent part of the programme evaluation. The outcomes of this research can be utilized in future planning and improvement to the TVET programmes. However, based on the nature of the inquiry and the requirements of the research questions, a qualitative approach was used as the most appropriate research methodology.

Each approach has its own pros and cons. The problem of research in this approach is that it is done chiefly with words, not with numbers; words are fatter than numbers and usually have multiple meaning (Miles and Huberman, 1994, p56).

3. 2 Research design

Research design includes the overall approach to be taken and detailed information about how the study will be carried out, with whom and where (Maykut and Morehouse, 1994, p64). The critical skill in research design is to decide upon a question that is important and then to choose research methods that will answer that question as unambiguously as possible given limited resources (Slavin, 1984, p16).

Qualitative methodology utilizing individual interviews was adopted to answer the above research questions. Interviewing is a recognized method of gathering information in the social sciences which includes the study of education and educational research (Powney, 1987, pVII). The interview is a well suited method to explore (Robson, 2002, p271) in – depth information. This small piece of research is exploratory in nature because it is intended to explore strengths and weaknesses of TVET programme in Nepal.

This is a flexible research design because it has used semi-structured interviews. In the semi-structured design, there is a considerable freedom in the sequencing of questions (Robson, 2002, p278), and is useful for in-depth inquiry in which open-ended questions are usually asked. However, the research is designed primarily based on the research question.

3. 3 Sampling

This is the small scale research. I found two people who became ready to take part in the interview. They were knowledgeable, well experienced in the relevant field and suitable to provide rich information regarding my research questions. These people were chosen to achieve the purpose of this study. Out of these two peoples, one is a principal who belongs to urban technical school and the other is a principal who belongs to a rural technical

school. Both of them have more than 15 years of work experience in the technical and vocational education and training in Nepal.

There are no simple summaries of strategies for sampling in qualitative education research, because of the great variety of research approaches, purposes and settings (Punch, 2009, p162). The researcher selected these individuals for this study because they can purposefully inform an understanding of the research problem and central phenomenon in the study (Creswell, 2007, p125). The main purpose of this selection was to provide the information needed to address the purpose of the research (Johnson and Christenson, 2004, p220). However, the purpose of the selection of these two participants is to maximize necessary information, not to facilitate generalization (Lincoln and Guba, 1985, p202).

Qualitative researchers usually work with small number of people, nested in their context and studied in-depth (Miles and Huberman, 1994, p27). The context of the study can enhance the value of the data (Walker, 1995, p3). Because of the limited number of participants, it was essential for the interviewer to locate the best informants (Powney, 1987, p49). This principle was kept in mind while selecting these peoples. Nevertheless, qualitative research is more likely to have small sample size (Cohen *at. al.*, 2007, p201).

Although the focus of the selection is to understand and obtain necessary information rather than focus on the representativeness, incidentally the people selected were from the two different settings: 'rural' and 'urban' technical schools, helping to make the research more inclusive. However, the principals of the technical schools are key people who can provide rich information; therefore they were considered as the best research participants.

3. 4 Data generation

The researcher was interested to understand more about participants' perceptions and their experiences. Therefore, he used in-depth interviews as a method of data generation.

3. 4.1 Interview

Interview is a two person conversation initiated by the interviewer for the specific purpose of obtaining research-relevant information and focused on content specified by research objectives of systematic description, prediction or explanation (Cohen and Manion, 1998, p307). According to Powney (1987, p7), in interview, data is gathered through direct oral interaction. It was chosen as the main data collection tool because of their strengths in data generation (Silverman, 2000, p291). The interview is the most appropriate to identify the range of different types of **experiences, perceptions** and **opinion** (Robson, 2002, p288). Denzin and Lincoln (1998, p47) have given a similar view that though the spoken or written word has always a residue of ambiguity, interviewing is still one of the most common and powerful ways to understand our fellow human beings. Flick (2007, p46) states the similar view that interviews are suitable for studying people's understanding of the meaning of their lived world, describing their experiences and self- understanding, clarifying and elaborating their own perspective on their lived world. He further states that qualitative interview seeks qualitative knowledge, it does not aim at quantification (Flick, 2007, p11), and it works with words not with number.

Moreover, in interview, it is possible to probe and stimulate the respondent to give full answers (Cohen *et.al.* 2008, p219). However, the use of interview in social and educational research has been widely accepted (Tomlinson, 1989, p155). All these features encouraged the researcher to select interview as the most suitable method to understand and explore the perceptions of strengths and weaknesses of TVET programmes.

Though there are different types of interviews such as telephone, online, face to face; this study used the most common type of interviewing i.e. individual, face to face verbal interchange (Denzin and Lincoln, 1998, p48). In other words, one to one and face to face interviews were considered as the best methods while determining the type of interviews because in this type, inaudible answers can be clarified during the interview and we can listen not only what it is said, but also observe how it is said.

Therefore, the interview was used as the principal means of gathering information by direct bearing of the research objectives in mind (Cohen and Manion, 1998, p309).

3. 4.1.1 Advantages and disadvantages

According to Cohen and Manion (1998, p308), the main advantage of interview is that it allows for greater depths than is the case with other methods of data collection. On the other hand, a disadvantage of interview is that it is prone to subjectivity and bias on the part of the interviewer. However, an attempt was made to eliminate the interviewer bias due to conscious or unconscious selection as to what to record (Engelhart, 1972, p114): the interview was tape-recorded. It is also criticized that interviews are time consuming procedures that cannot always guarantee that respondents will share their perceptions, views and thoughts. Nevertheless, it depends upon whether the participants are cooperative or not.

3. 4.1.2 Interview guideline

To guide the interview, a semi-structured interview guide was developed (Appendix-A). An interview guide is a script that frames the course of the interview; for semi- structured

interview, the guide includes an outline of topic to be covered with some questions (Flick, 2007, p57). However, a semi-structured interview guideline offers enough shape to prevent aimless rambling (Coleman and Briggs, 2002, p149). It allows a lot of space to receive a wide range of breadth and depth of information on topic, but how much is not known before the interview (Robson, 2002, p278). The guideline contains open-ended questions because they are flexible and allow the interviewer to probe, clear up any misunderstanding, test the limits of the respondent knowledge, encourage cooperation, and help establish rapport (Cohen *et. al.*, 2007, p357). In other words, open-ended questions are used extensively in in-depth interviews because they give greater freedom for respondents to answer in their own terms rather than within the tramlines of set alternatives in closed questions (Walker, 1985, p49). Even though interviewees provided a lot of information spontaneously, some prompts and probes were also used in order for the interviewees to clarify or expand on their answers.

3. 4.1.3 Access to the participants

This is an important part of the successful interview. The research participants were identified through personal contact by email and phone. Both participants were entirely independent. They were asked to participate face to face, one to one interview which was conducted on a convenience date, day, time and location preferred by them which was re-confirmed by both email and phone.

3. 4.1 .4 Gaining trust

Gaining trust is an essential to an interviewer's success. Establishing rapport is important because the goal of loosely structured interviewing is to understand; therefore it becomes paramount to establish rapport (Denzin and Lincoln, 1998, p60). For this purpose, the researcher reviewed the location of his previous work places and institutions, position held

and responsibility taken, which made the interviewees able to understand the perspective and background of the researcher. Rapport building activity brought the researcher and interviewees closer which helped to make the interview more comfortable and successful. In this research, gaining trust became easier because the researcher used to work under the same umbrella organization in which the interviewees are working, although the location is different.

3. 4.1.5 Conduction of interview

Individual interviews were conducted with the selected participants. Due to the availability of research participants here in the UK, interviews was taken in Manchester and Reading. Before the interview, the purpose of the research was explained explicitly and the information sheet was given to read (Appendix- B) then the consent form (Appendix-C) was signed by explaining the legal provision. A pre-prepared interview guideline was used to facilitate the interview process. Both the interviews were conducted in a relaxed environment because both the interviewees were well experienced with interview process; they were cooperative and provided a lot of information spontaneously without probing. Each interview lasted approximately an hour; each topic was discussed as comprehensively as possible.

Moreover, the language adopted by the researcher in the interviews was consistent with that used by the interviewees (Nepalese). No significant difficulty was experienced during the process except some noises of children and mobile phone with one interviewee was observed. However, these noises did not create any significant problem during either the interview or listening to the tape while transcribing.

3. 4.1.6 Recording of the interview

For recording the interview, a digital audio tape was used. The main reason of taping interview is to obtain a permanent record of what was actually said instead of what the interviewer thought was said (Slavin, 1984, p92). This helped to prevent the possibility that the interviewer's own bias might enter into what is recorded. Because of the one to one individual interview, there was no difficulty understanding the tape recorded information, which is not possible in group interview. In addition to this, the main advantage of using a tape recorder is: the interviewer can concentrate on the topic which helps to make the interview more dynamic (Flick, 2007, p92). Similarly, audio recording provides the opportunity to listen again and again which helps to understand the data more deeply. Moreover, "Tape can be re-played and transcriptions can be improved and analysis can takeoff on a different tack unlimited by the original transcript" (Silverman, 2001, p162). Tape recorded interview can also be used while making interpretation.

Permission was granted by both research participants to tape the interview. They were comfortable with the recording; it might be because all of them had been used recording devices in their own studies.

In general, for recording interviews, two methods could be used: hand written notes and tape recording. The main reason for using hand written notes is for insurance, if any case respondent is reluctant to tape record their interview (Walford, 2001, p84). In this research, a verbal permission was granted by both participants to tape the interview in advance therefore, the hand written notes was not used for recording. Both interviews were tape recorded well without causing any problem because the tape was practiced on and tested before carrying out the actual interviews.

The drawback of tape recording is that the data based mainly on audio recordings is incomplete; for example it cannot capture facial expressions (Silverman, 200, p 162). Linking to the transcription, Delamont (1992, p109) states that tape recording sounds like a wonderful idea but transcribing the tapes is unbelievably time consuming and some informants may be inhibited by it or may refuse to talk at all.

3.5 Analysis

Analysis is the interplay between researchers and data (Strauss and Corbin, 1998, p13). From the review of the literatures, it is seen that the qualitative data analysis can be done and understood in different ways. Dey (1993, p31) states that the analysis involves breaking data down into bits then beating the bits together. According to Creswell (2007, p148) data analysis consists of preparing and organizing the data for analysis, then reducing the data into themes through a process of coding and condensing the codes and finally representing the data in figures, tables or a discussion. The analysis of data is a process of making sense, of finding and making a structure in the data and giving this meaning and significance for ourselves and for any relevant audiences (Walker, 1985, p56). Moreover, “data analysis involves organizing, accounting for and explaining the data; in short, making sense of data in terms of the participants’ definitions of the situation, noting patterns, themes, categories and regularities” (Cohen *et.al*, 2007, p461). They further state that there is no one single or correct way to analyse and present qualitative data; how one does it should abide by the issue of fitness for purpose. However, analysis of qualitative material is more explicitly interpretive, creative and personal than in quantitative analysis (Walker, 1985, p3).

The qualitative approach is appropriate for analysis because it helps to explore the strengths and weaknesses of TVET programmes in Nepal. Although there is not a right or

wrong method to analyse the data, some methods of analysis might be more suitable for some data to answer the particular research question. There are varieties of methods of analysing qualitative data (Maykut, 1994, P155) such as thematic analysis, narrative analysis, documentary analysis, discourse analysis, grounded theory approach and so on.

3. 5.1 Rationale of choosing the methods of analysis

Thematic analysis can be used as a part of many qualitative methods of analysis (Boyatzis, 1998, pvi). Following this idea, the thematic analysis was used as a part of discourse analysis. In other words, thematic analysis helped to develop the thematic codes and pattern of relationships of the codes and the discourse analysis helped to explore further and deeper meaning i.e. to validate these themes. However, the purpose and the research question (Bazeley, 2007, p2) led the researcher to choose thematic analysis leading to critical discourse analysis as appropriate methods. The concept and meaning of thematic and discourse analysis is explained in the following headings:

3. 5.2 Thematic analysis

Thematic analysis facilitates the organization and presentation of qualitative data and forces the researcher to make judgement about the meanings of contiguous blocks of text (Denzin and Lincoln, 2003, p274). According to Braun and Clarke (2006, p79), thematic analysis is a method for identifying, analysing and reporting patterns (themes) within data. However, it is a flexible method of data analysis that enables the researcher to see the data from different angles. In addition, thematic coding can easily be applied to the data obtained from semi- structured interviews.

In this research, thematic analysis was used to encode and organize the data into themes. A theme captures something important about the data in relation to the research question and

represents some level of patterned response or meaning within the data set (Braun and Clarke, 2006, p82).

3. 5.3 Discourse analysis

Discourse analysis is not only about method, it is also a perspective on the nature of language and its relation to the central issues of social sciences (Wood and Kroger, 2000, pX). The data in this research are the texts which are the transcriptions of the interviews. These texts are social facts; they are produced, shared and used in socially organized way (Denzin and Lincoln, 2003, p56). The identification of strengths and weaknesses of TVET programmes are also connected and dealt to the socio-economic contexts: “social reality is produced and made real through discourses and social interactions cannot be fully understood without reference to the discourses that give them meaning” (Phillip and Hardy, 2002, p3). In this context, discourse analysis can be seen to add an extra layer of deeper understanding of meaning to the data.

Moreover, the critical aspect of discourse analysis focuses on the use of power in speech and text as used by dominant groups and organizations. In other words, in critical discourse analysis, the unit of analysis is power of language rather than of the individual. Discourse analysis therefore, requires the ability to examine discourse creatively in all of its multifarious aspects and with an open mindedness to entertain multiple possibilities (Wood and Kroger, 2000, p91).

However, discourse analysis is an essential and unavoidable part of an organization study where the policy of an organization is one of important components (Fairclough, 2005, p916). This study is also intending to identify the perceptions of strengths and weaknesses which can be helpful for revising and formulating the policies/strategies in TVET

institutions/organization in Nepal. Critical discourse analysis is therefore, considered as an appropriate method for the analysis of interviews data in relation to the research question.

In this research, discourse analysis was used to validate the themes developed through thematic analysis which helps to further explore the strengths and weaknesses of TVET programmes. How these two methods were used together to analyse the data is given in chapter four.

3.2 Ethical considerations

Within educational research, ethics is concerned with ensuring that the interests and wellbeing of people are not harmed as a result of the research being done (Lankshear and Knobel, 2004, p101). In other words, human beings are the object of the inquiry in interview, therefore researcher as a subject have to take extreme care to avoid any harm to them (Denzin and Lincoln, 2003, p88). Considering this fact, interviewees were informed about the research carefully and truthfully.

Regarding the ethical issue, researchers need to be attentive before, during and after the study. In this regard, the researcher has provided full information on what the study is about, the purpose of the study, fully volunteer and unforced participation, focus of the research, withdrawal procedures, and participant confidentiality. The researcher had taken permission from the participants to take interview, use of digital tape recording devices and also taken consent to assist in data analysis. Moreover, the researcher had also promised confidentiality of the information they have provided. As Miles and Huberman (1994, p293) said, the researcher believes that explicit confidentiality agreements about where raw data and analyses will be stored and who will have access to them, probably increase data quality by increasing trust. While storing data, attention was given to protect the

anonymity of participants by using pseudonyms throughout the report. The researcher also tried to maintain the confidentiality of the technical institutions to which they belong. The names of the interviewees have not been disclosed anywhere in the report.

The researcher asked and confirmed to the participants whether they are prepared to take part in this research. The verbal agreement was made through phone in advance but written agreement was made through signing on the consent form just before starting the interview.

3.3 Trust worthiness

The trustworthiness of the research is mainly concerned with its validity. Validity means whether this study investigate what it is intended to be investigated (Flick, 2007, p36). The assumption of the validity is that it is where the credibility is guaranteed (Silverman, 2001, p23). According to Schostak (2002, p134), a truth can be found if the correct procedures are applied. Finding out the truth should be the purpose of any research but how can we know the truth? To judge the validity, the claim should be sufficiently plausible or credible (Hammersley, 1998, p108) and findings should be relevant.

From the above statements, it is seen that validity depends on how accurately the researcher has described, interpreted and justified the claim with the sets of evidence. Nevertheless, the issue of validity should be taken into account during all phases of research from the formulation of research question to generate the final results. What was done to increase the validity in this pilot project is described below:

Perhaps the most important way of achieving greater validity is to minimize the amount of bias as much as possible (Cohen and Manion, 1998, p318). For this purpose, the researcher situated his position as a researcher and looked towards its responsibility and

accountability. Moreover, audio taping of interviews also helped to reduce the researcher bias from the perspective of recording of data. The researcher is confident on the validity of the data because the audio tape and transcripts can confirm that the researcher did not make it up or modify it at all. Therefore, the audio tape can be the evidence of the description and interpretation. In this regard, Maxwell (1992, p288) states that one of the ways of establishing interpretive validity entails validating the account in the transcript from the informant. For this, the researcher consulted each participant and offered transcribed data and the summary of the results. The feedbacks obtained from them were incorporated into the interpretations of the results. These are the parts of the process to member check the data for researcher bias. Before sending out a copy for member checks, its purpose to each participant was re-clarified each time.

Secondly, in qualitative research the term 'thick description' is widely used to demonstrate the internal validity of the research which the researcher tried to provide more accurate description throughout the process of data generation and analysis. For this purpose, the researcher followed all the steps and described the process systematically for coding and categorizing of the data with adequate examples. In addition, the researcher also tried to use all the interview data for analysis and interpretation rather than using a certain chunk of data to draw the conclusion. Similarly, for each claim, evidences were provided from the direct quotes. A lot of quotes were used during data analysis. This was specially done to achieve descriptive validity. In addition, the researcher collected the data from the principals who belong to rural and urban setting which helped to show the site triangulation. The settings can be understood as the entire context of the events under study.

However, the trustworthiness of the qualitative research is still the subject of much debate (Robson, 2002, p168) because it is more interpretative and subjective.

Chapter Four –Data Analysis and Interpretation

This chapter explains how the data was analysed. It starts from the discussion of the stages of thematic analysis which includes listening, transcribing, and reading of the interview data. It discusses the process of open coding and axial coding. Finally, it interprets the themes to make sense of the data in relation to research questions.

4.1 Stages of thematic analysis

According to Boyatzis, (1998, p29), the use of thematic analysis involves three stages: stage one entails deciding on sampling and design issues - this has been described in chapter three; stage two includes developing themes and a code; stage three involves validating and using the code. The critical discourse analysis would be used in stage three.

Within the stage two, there are three different ways of developing thematic codes: theory driven, data driven and prior data and prior research driven. Among these three, the researcher used the inductive approach (**data driven**) in which themes are identified strongly linking to the data themselves (Baun and Clarke, 2006, p83). However, it is important to note that researchers cannot free themselves of their theoretical and epistemological commitments and data are not coded in an epistemological vacuum. Nevertheless, the inductive approach of thematic analysis bears some similarity to grounded theory (Braun and Clarke, 2006, p83) that means the data drive the analysis and this creates more room for objectivity as oppose to ensuring the data fits the theory. However, the thematic analysis can be described within the following three stages:

4.1.1 Stage one-listening, transcribing and reading

In order to carry out the analysis, the researcher listened to the tape recorded interviews several times before transcribing. That permitted him to gain an initial insight into the data. The interviews were transcribed first in Nepalese language then translated into English for analysis. After the transcription, the researcher listened to the tape again to re- check the transcripts. Then, he read and re-read the raw data several times again. The aim of reading and re-reading through the data is to prepare for the ground for the analysis (Dey, 1993, p87). The researcher impressed and realized with the Dey's statement **“we cannot analyse our data unless we read it: how well we analyse data is depends on how well we read it”**. Therefore, the reading in qualitative data analysis is an active process. Moreover, the process of reading involves close reading of the text to understand the raw information and to internalize as much of it as possible. From the reading, the initial general reflection is that existing TVET programmes in Nepal have some pertinent issues that are related to the staff and trainees, curricula, facilities and financial matter.

4.1.2 Stage two- Developing themes and codes

4.1.2.1 Open coding

Coding is the heart and soul of whole text analysis which forces the researcher to make judgement about the meanings of contiguous blocks of text (Denzin and Lincoln, 2003, p274). Open coding is an analytic process through which concepts are identified and their properties and dimensions are discovered in data (Strauss and Corbin, 1998, p101).

After reading the transcripts a number of occasions, researcher imported the transcribed data into NVivo. NVivo is software which is used as an analytical tool that is designed to assist researchers in organizing and managing non-numerical or unstructured data. NVivo enabled the researcher to begin categorizing the data. At the beginning, the data were

chunked/utilized (Lincoln and Guba, 1985) by selecting the text that helped construct a meaning which makes sense. The researcher tried to give meaningful names for each code so that it can give an indication of the idea or concept that underpins the theme or category. However, each code indicates what each chunk of text is about. At the beginning, there were 60 codes developed, when repeated codes were eliminated and some of the similar codes (which represent the similar meaning) were combined together this then came down to the list of 22 codes (called free nodes in NVivo). For example, '*learning facilities*' was coded two times; one of these codes was deleted later. Similarly, the codes such as '*consequences of inadequate budget*' and '*effects of low budget*' were merged together into '*consequences of inadequate budget*'. Some of the codes were revised and changed a number of times (re-coded) and given new names to capture the idea in a better way: what is going on within the related texts. However, before eliminating, combining and re-coding, codes were referred to the whole text to confirm that meaning should not be lost. At the end, this analysis led to the generation of 22 codes which are represented in a graphical model in NVivo (Figure-1).

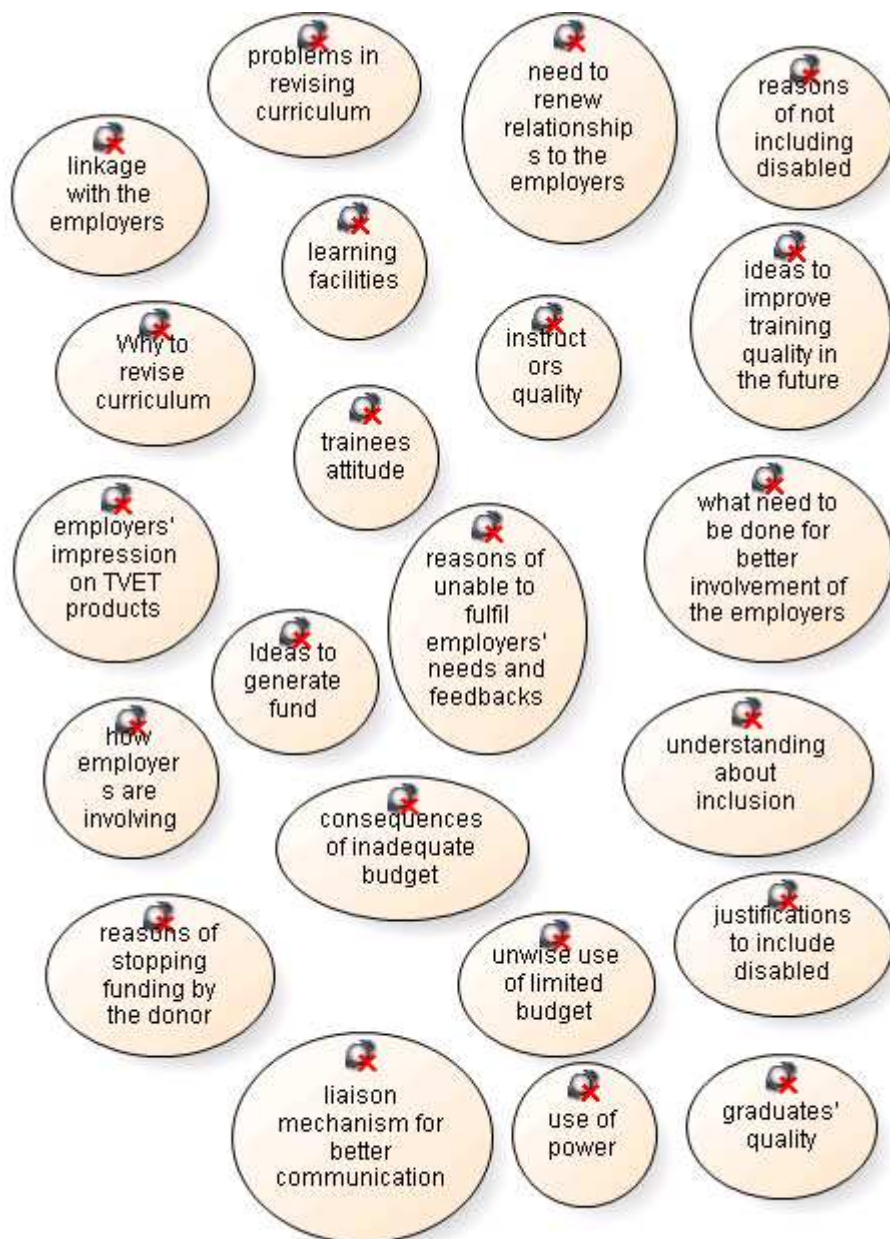


Figure: 1 Graphical representation of the codes generated through open analysis.

These types of codes are un-organized and represents as still unconnected ideas about the text; in a nutshell, these codes are capturing general ideas. This led the researcher to carry out the axial coding (developing tree nodes-connecting small themes to a code). At the end of axial coding 22 codes came down to 20 codes while two codes were assigned as themes such as ‘*linkages with the employers*’ and ‘*factors affecting graduates’ quality*’.

4.1.2.2 Axial coding

Axial coding is the process of relating categories to their sub- categories, termed ‘axial’ because coding occurs around the axis of category, linking categories at the level of properties and dimensions (Strauss and Corbin, 1998, p123). The purpose of axial coding is to begin the process of reassembling data that were fractured during the open coding (p124). In this stage, the free codes were repositioned and grouped according to their similarities in their properties and dimensions. For example, ‘*why to revise curriculum*’ and ‘*problems in revising curriculum*’; both of these codes are directly related to the issue of curriculum. Therefore, the researcher assigned a theme ‘**curriculum**’ for these codes. Similarly, the codes such as ‘*how employers are involving*’, ‘*needs of renewing relationships with the employers*’ and ‘*reasons of unable to address employers’ needs and feedbacks*’ were clustered and assigned a theme for these codes i.e. ‘**linkage with the employers**’. However, this step of analysis involved comparing and clustering the codes which were related to revolve around the same phenomena (Boyatzis, 1998, p87).

In this way, looking at a list of 20 open codes and referring to the text again, the researcher came up with the **six key themes** to answer the research questions. First five themes such as *curriculum, factors affecting graduates’ quality, linkage with the employers, budget and inclusion* would be used to answer the first research question (i.e. what are the perceptions of strengths and weaknesses of technical and vocational education and training in Nepal?) and the last theme ‘*ways to improve TVET programmes*’ would be used to answer the second research question (i.e. how can TVET programmes in Nepal be improved?). A theme captures something important about the data in relation to the research question and that represents some level of patterned response to or meaning within the data set (Baun and Clarke, 2006, pp82). However, in axial coding categories (tree nodes) are systematically developed and linked with sub- categories (free nodes) to form more precise

and complete explanations about phenomena (Strauss and Corbin, 1998, p125) and a phenomenon has the ability to explain what is going on.

Here, the tree nodes helped to show the categories' relationship with the sub- categories.

The figure 2 depicted a model that shows the relation between categories with sub-categories (or themes with codes).

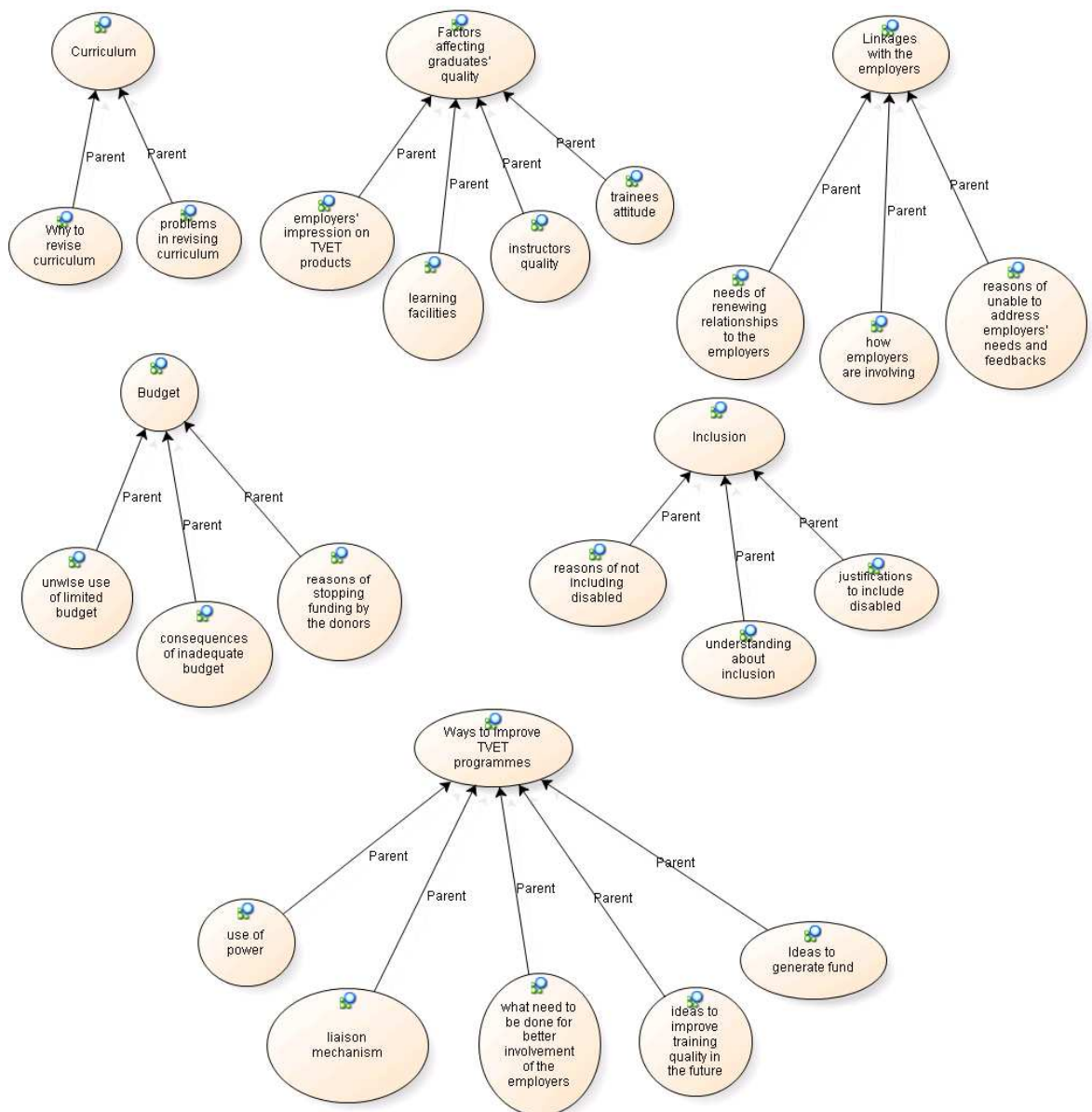


Figure:2 Relation between the key themes and codes of interview data.

Assembling codes and assigning a theme to these codes is a thought provoking process. In this process, free nodes were moved into tree nodes (codes). In this stage, each cluster was

organized in order to help in identifying patterns of association between them. However, the elements of a quality code include: a label, a definition of what the theme concerns, a description of indicators or flags, a description of exclusions and examples (Boyatzis, 1998, p53). In this research, the researcher tried to follow this quality coding procedures which has added an additional learning insight. The following themes were assigned to the codes which are presented in the table-1.

Table 1: Thematic Coding of the Data

Theme	Code	Explanation/Rationale
Curriculum	Why to revise curriculum	Data was coded for this category if the interviewees described/or explained reasons, situations and the needs of revising curricula. Examples of interview texts coded for this category include: “ <i>There is an important thing i.e. we need to be escaped from practicing the same curriculum for 10-15 years</i> ” (line 46); “ <i>Oh, curricula have developed 5 years ago, new skills might be needed, new varieties might have developed, and other new technology has been seen in the market place</i> ” (line 24).
	Problems in revising curriculum	To score this code, the individual should have described the possible obstacles of revising of curricula. Example includes: “ <i>The lack of budget might be a difficulty to revise curricula</i> ” (line 45).
Factors affecting graduates quality	Learning facilities	To score this code, interviewees should have talked about the current situation of learning facilities such as infra-structures, labs, practical facilities, books. Examples include: “ <i>Infra-structures are extremely lacking with us. We have developed course of studies but there is a lack of lab facilities, even books and capable and skilled instructors to support these courses</i> ” (line 4); “ <i>whatever they have got that is far better than none</i> ” (line 13); “ <i>In our school, they have got good learning opportunity; still more can be done such as we can bring the change in teaching methodology, improvement in infrastructure, and to provide more lab facilities and so on</i> ” (line 14); “ <i>A lot of things were done to manage practical facilities; there are no so much difficulties in our school, we have developed concept of ‘out reach programme’</i> ” (line 26).

	Instructor's quality	For this code, instructors' quality is explained in the texts from the perspective of practical work experiences. Examples include: <i>"Our instructors are academically good they can teach theory well but in teaching practical skills, they are not so good, one of the reasons is that they have a lack of industry exposure and practical experiences; this is my straight forward answer"</i> (line 8).
	Employers' impression on TVET products	In scoring this code, interviewees should have described the employers' experience on the graduates' performance. Examples include: <i>"The private employers think that ANM, Sub-overseer and JT/JTA are good workers but the government sector does not think in such a way"</i> (line 12).
	Trainees attitude	To score this code, reference should have been made to things such as how trainees think on learning knowledge and skills. Examples include: <i>"Now, among the trainees, an attitude has been developed that I study here for three years then might get admission to the colleges. They are more oriented towards knowledge i.e. how to pass it and how to get good marks rather than getting skills"</i> (line 19).
Linkage with the employers	How employers are involving	Here, to code this category, interviewees should have described some ways of employers' involvement in the TVET programmes. Examples include: <i>"Inviting some employers and asking their situation once in 2-4 years time is not enough to know the real needs of the employers"</i> (line 26); <i>"One representative from the Federation of National Chamber of Commerce and Industries (FNCCI) is in our school management committee"</i> (line 36).
	Need to renew relationships to the employers	This code was scored when reference was made to the current situations of relationships with the employers and other driving forces. Examples in the data text includes: <i>"The linkage between the employers and technical school has been weak"</i> (line 15); <i>"In the situation of technological change and the rapid movement of people from one place to another place for searching the job, it is necessary to make and renew the relationship with both government and private employers"</i> (line 49).

	Reasons of unable to address employers needs and feedbacks	Data was coded in this group if the interviewees explained the reasons of being unable to address employers' needs and their feedbacks. Examples used to code this category include: <i>"Let me explain, we could not supply the graduates that they can fulfil their needs. For example, in civil trade, our graduates should be able to do survey, use simple level machine. But sometimes, they could not use this simple 'level machine' when they go to the employers. The important thing is that we have only two level machines for 50 students. We allow them to practice in group of 10, in this situation, only few clever students can learn that skill"</i> (line 28); <i>"We interact with the employers and get some feedbacks from them but we do not implement these feedbacks because there are many problems such as lack of budget, no authority to change and revise course contents and so on"</i> (line 44);
Budget	Consequences of inadequate budget	Here, it was coded if the interviewees explained about the financial situations, uses and consequences of limited budget. Examples in the text include: <i>"We cannot say that we have adequate budget because we cannot buy necessary things required for the practical purpose and we don't have necessary things that are required to teach"</i> (line 66); <i>"We have about 50% administrative staff from central to the schools. i.e. which I think is more than necessary. Skilled teaching staff is always scarce, which is evidenced that an instructor is teaching all subjects in that trade (I mean 4-5 subjects). We don't have adequate budget"</i> (line 69).
	Reasons of stopping funding by the donors	Data was coded for this category if interviewees explained why donors' interest was reduced for financial support. This could be situations, events, and experiences. Examples of interview texts used for this code include: <i>"The main reason of stopping funding by the donor agencies is the political interference"</i> (line 31). <i>"The biggest problem is 'political interference' which is still exists. In the head office, who are appointed in the leadership positions they are politically coloured due to which that affect up to the grass root level in the technical schools"</i> (line 4).
	Use of budget	In scoring this code, the interviewees' should have described about the size of the budget and

		its use. Examples of texts include: <i>“we have extremely less amount of budget”</i> (line 20); <i>“we are spending a large sum of money for administrative staffs which might not be necessary”</i> (line 67).
Inclusion	Understanding about inclusion	This category was scored if the interviewees explained about the concept, examples, perceptions and the practical situations of inclusion. Examples include: <i>“It means to include all for skills development programme so that there will be no differences in the society. For example to increase women participation, while recruiting trainees, we determine certain quota for women and people from backward districts”</i> (line 58); <i>“Twenty five percent quotas only for women”</i> (line 60); <i>“I don’t think that we have used the term ‘inclusion’ but what we did is that during recruitment, we had given additional numbers for certain remote districts”</i> (line 33).
	Justifications to include disabled	In coding this category, the individual should have described about the logics of inclusion of disabled. It could be situations, examples. Example includes: <i>“Now, it is essential because of a decade armed conflict between the Maoists and the government security forces, thousands of peoples have been injured and became disabled”</i> (line 37).
	Reasons of unable to include disabled	To score this category, the interview texts were referred which has explained about the perceived difficulties, problems, obstacles to include disabled. Examples include: <i>“We have no such policy. In our curriculum, there are many activities to do, need to go to the field, need to work into the labs, workshops; people should be able to perform these activities. Now, for disabled, we need to prepare special mechanisms such as special lab facilities and infrastructures suitable for such people. We have no such facilities”</i> (line 62).
Ways to improve TVET programmes	Ideas to improve training quality in the future	In scoring this code, the interview text should have described about the ways to improve the quality aspects of TVET programmes particularly related to instructors and curricula. Examples include: <i>“First of all there should be a good planning. In every five years course content should be revised to meet the changing market needs”</i> (line 18); <i>“In fact, they (Instructors) should be trained in TITI before coming to teach in the schools so that they can be familiar how to teach, what should be</i>

	<i>focussed i.e. skills, knowledge, and attitude and so on. At present, this gap exists in the newly recruited instructors” (line 14).</i>
What need to be done for better involvement of the employers	Data was coded in this category if the interview texts explained about how the employers can be better involved. It could be situations, activities, examples. Examples include: <i>“we have to involve 1-2 employers from each area such as those who are working in agriculture industry, construction industry, electrical industry and mechanical industry into our school management committee and need to organize regular meeting with them which would be good” (line 38).</i>
Ideas to generate fund	In scoring this code, the interviewees should have described about fund raising mechanisms and strategies. It could be events experiences, strategies, examples. Examples include: <i>“Are we being able to control unnecessary expenses? To what extent, we have mobilized existing resources, for example, we produce something as by-products within the technical schools. I think in the future, we should move in such a way that we should establish a separate production unit” (line 53).</i>
Liaison mechanism	This code was scored when the explanation was made on the needs and benefits of this mechanism. Examples are: <i>“In fact, this is a core part in the system, this unit is essential. It is also essential for the expansion of training programmes, to resolve the issues, to manage funding related things, to maintain the quality standard. Therefore, this is very essential” (line 61).</i>
Use of power	Data was coded for this category if the interviewees described about the current situation of use of power and its practices. It could be experience and practices of use of power. Example includes: <i>“Whatever it is written on the paper, without taking order from head office we cannot do these activities even in grass root level. Decentralization is only on the paper, the practice is just opposite to it (line 6).</i>

At the end of this stage, six themes emerged with 20 codes.

4.1.3 Stage three- Using the code

When the researcher used thematic analysis to develop a code, the final phase now involved actually using the code on the interview transcripts. This is because the data analysis is an iterative process. This iterative process has given the researcher an opportunity to interact more with the data and become more familiar with it again.

This code and theme development activity has clearly identified some issues and the quoted data in each issue has indicated some strengths and weaknesses of TVET programmes. At this stage, the research questions are partially answered; still the researcher needs to question the interview data further. Therefore, there is a need for further discussions and explanations to fully answer the research questions which will be done through critical discourse analysis. Critical discourse analysis seems to offer an opportunity to question the data in order to answer the research questions satisfactorily which make sense. Now, these six key categories would be described and interpreted through critical discourse analysis which would help to fully answer the research questions. As stated above, the combination of these two methods is supported by Boyatzis (1998, p128).

4.2 Making sense of the data

Looking at the first research question, each theme would be described from the two perspectives: strengths and weaknesses of each issue. As Denzin and Lincoln, (1998, p30) have stated that in qualitative research, a widely used method for describing theme is the presentation of “direct quotes” from respondents. Realizing this statement, the researcher has tried to quote the data as much as possible. During analysis, the emphasis was given on how the respondents are saying what they say rather than what they are saying only.

While quoting data U, R, and Me are used at the beginning of each statement, where **U** stance for Uttam who belongs to Urban Technical School; **R** stance for Ramesh who belongs to Rural Technical School and **Me** stance for interviewer/researcher. Uttam and Ramesh both are pseudonyms. The quoted paragraph is indicated by line numbers which is given within the bracket of each quote.

4.2.1 Curriculum

Curriculum is one of the six broader themes which emerged from the interview data. It is one of the core elements in education and training that guides and frames the teaching and learning process. Revising and updating the curricula from time to time is one of the pertinent activities to provide updated skills, knowledge and technology to the TVET trainees to address the ever changing labour market needs. The following excerpts are helpful to understand the situation of the current TVET curricula.

*U: “There is an **important thing** i.e. we need to be **escaped** from practicing the **same curriculum for 10-15 years**” (line 46).*

*R: “Oh, **curricula have developed 5 years ago**, new skills might be needed, new varieties might have developed, and other new technology has been seen in the market place. **If we could amend our curricula** by incorporating market friendly skills then trainees could learn such skills. There are no such skills in the curriculum which are needed in the market” (line 24).*

The above excerpts show that the curricula have developed and been used for TVET programmes but these have not been revised and updated for many years (for at least 5 years). The market is demanding new occupational skills and knowledge due to the changing needs of technology: for example how to use new survey machine instead of old ‘theodolite’ for levelling. There is a big gap between yesterday’s and today’s needs. Uttam and Ramesh - both of the interviewees - are agreed that the same curricula have been repeatedly used for many years. In this regard, Uttam said that “we need to be **escaped**

from using same curricula for 10-15 years”. Similarly, Ramesh also expressed the similar view “curricula have developed 5 years ago”. These situations show that their curricula are static rather than dynamic. However, the research participants are realizing that curricula need to be revised and updated. The differences seen in the data regarding the years of use of the same curricula could be because they might have referenced different programmes such as Mechanical, Civil, and Electrical or maybe Nursing or Agriculture programmes. Nevertheless, it can be pointed out that one of the weaknesses of the TVET programmes could be that they are unable to revise and update curricula over a longer time period. Ramesh suspects that the lack of budget could be one of the obstacles for revising the curricula but there might be other reason that needs to be investigated further; this was a general study.

4.2.2 Factors affecting graduates’ quality

A graduate’s quality is likely to depend on various factors such as instructors’ quality, trainees’ attitude, availability of learning facilities and so on.

*U: “Our instructors are **academically good, they can teach theory well but in teaching practical skills, they are not so good, one of the reasons is that they have a lack of industry exposure and practical experiences; this is my straight forward answer**” (line 8).*

Here, Uttam is appreciating instructors’ theoretical knowledge and recognizing their academic achievements. On the other hand, he is uncovering their weaknesses which need to be improved in the future. Uttam seems confident because he shared his views in a balanced way by stating both positive and negative aspects of instructors’ quality. **‘This is my straight forward answer’** this describes that Uttam is saying truth and giving factual information because he seems more confident.

Uttam has also expressed that teaching in technical school has been a least choice job from earning point of view especially for the Civil Engineers because they get paid more in the private construction companies.

Me: “If some one claims that instructors of TVET systems are well trained and capable to run the TVET programme successfully. How do you react with this statement” (line 16)?

*R: “It cannot be generalized. Those instructors who have got the trainings from **TITI**, they are at **good standard**. **They have clearly understood that how to provide skills to the trainees**, they have **done well** and became examples. But in newly recruited instructors, there is a gap” (line 17).*

In terms of instructors’ quality, Ramesh is categorizing them into two groups trained and untrained. Those who have trained from the Training Institute for Technical Instruction (TITI) (which provides instructional as well as occupational skills development training) are at a good standard and demonstrating good examples for others. It means, TITI provides good quality training needed for the instructors but newly recruited instructors have not got such training opportunities. From this, we can understand that the TITI training seems instrumental in equipping instructors with occupational and instructional skills.

Therefore, having a Training Institute for Technical Instruction and strong academic qualifications of the instructors could be the strengths of the TVET programmes.

*U: “Infra-structures are **extremely lacking** with us. **Our programmes are very nice** which aims to create job opportunities for youths who fail School Leaving Certificate (SLC) exam and have no other alternatives for further education. We have developed course of studies but there is a lack of **lab facilities**, even books and capable and skilled instructors to support these courses” (line 4).*

The word ‘**extremely lacking**’ indicates that there might be a serious problem of infra-structures, later; he linked it with inadequate lab facilities for the practice. However, lab facilities are the core part of technical education and vocational training. Uttam is claiming

that TVET programmes are **very good programmes** especially for those who fails School Leaving Certificate (similar to GCSE in the United Kingdom) examination. Here, it seems that he is advocating the importance and scope of TVET programmes.

*U: “Employers also suggested that we need to **teach the theory less**, and let our trainees to **practice more**” (line 33).*

Me: “What do you say about the adequacy of practical opportunity obtained by the trainees” (line 12)?

*U: “Whatever they have got that is **far better than none**” (line 13).*

*U: “In our school, they have got **good learning opportunity; still more can be done**” (line 14).*

From the lines 33, it is seen that teaching learning process of TVET programmes are theory driven rather than practical. This theory oriented teaching and learning approach is against the principle of technical education and vocational training. Line 13 indicates that the TVET trainees have got few practical opportunities. Therefore, one of the main reasons of theory orientation of teaching and learning might be due to the lack of adequate practical facilities.

Regarding the practical opportunities, here, Uttam is claiming and defending himself that there is a good learning opportunity in his school at the same time, he realized that there is a room for improvement. However, his intentionality might be to position himself in a good place and wants to establish his identity as a good manager.

*U: “We have **only two level machines (Theodolite) for 50 students**. We allow them to practice in group of 10, in this situation, **only few clever students can learn that skill**” (line 28).*

However, there are inadequate learning facilities in his school which becomes crystal clear from line 28: for survey practice, there are ‘**only**’ two level machines for 50 students which are inadequate; as a result trainees are more likely to get less practice in the construction trade. On the other hand, they did not get equal practical opportunities which seems unfair as well because ‘**only few clever students can learn**’ surveying skills.

When answering this question - how did you try to manage practical facilities? - Ramesh spontaneously states the following:

R: "A lot of things were done to manage practical facilities; there are no so much difficulties in our school. Now, there is no SDC support (donor), and there is limited government budget. In addition to regular hour 9:00 to 5:00, we taught morning and evening hours because we were trained at the beginning that we should think about how we can help our trainees to learn more. We concentrated more on whether our trainees got more opportunities to learn skills. We have conducted a survey two times among our graduates to identify how are they working? Where is the gap? What need to be added into the curriculum, how should we proceed ahead? In addition to this, we have developed concept of 'out reach programme', we also developed a monitoring and assessment tool to know the teaching quality of our instructors, and how trainees are feeling about the quality of instructors. I compelled to improve my- self from the feedbacks provided by the trainees. Based on these feedbacks, each instructor has been changed. We also opened a primary school to retain our instructors from the transfer in the name of their children's education. We also made a very good relationship with the local community. A lot of efforts we have been made but its continuation are doubtful" (Line 6).

Here, Ramesh as a principal is claiming that they had put in a lot of effort to manage practical facilities. The claim is not made on personal level rather; it is claimed on behalf of a team. Further, it seems that there is a 'good team work' environment in his school which can be reflected from the use of 'we/our' spontaneously for 'fourteen times without probing'. They have very good intention to impart skills to their trainees because they are volunteering extra time in the morning and evening.

From the analysis of the above excerpts, it is seen that both technical schools do not have adequate practical facilities. Therefore, having less practical facilities could be one of the weaknesses. However, the principals' commitments and efforts seemed to be a positive aspect of managing practical facilities. Nevertheless, the practice of 'teamwork' within the school could be one of the strengths of TVET programmes.

R: "The private employers think that ANM, Sub-overseer and JT/JTA trained workers are good workers but the government sector does not think in such a way" (line 12).

Despite the less practical opportunities in the technical schools, TVET graduates (ANM, Sub-Overseer and JT/JTA trained) have a good impression on the employers about their performance (line 12). This type of **‘positive image’** on the graduates’ performance can be considered a strength of technical schools. However, to verify this, the data should be collected from the employers in the main study. Although the level of their assessment is different, both private and government employers have positive image on TVET graduates.

Moreover, in technical and vocational education and training, there should be the focus on learning skills but the interview data indicate that the attitude of the trainees is diverted towards knowledge rather than obtaining skills. The reason behind it could be having an interest for further education rather than employment after completing of the course. During the interview, Ramesh seemed worried about the changes in the policy from the original concept of TVET in which TVET graduates should be employed or self- employed after completion of the course rather than go to the colleges and universities for further education. However, opening the door for further career development could be taken as positive step but it might be against the original concept of TVET programmes. Whether this policy is good or bad could be a topic for further investigation.

4.2.3 Linkages with the employers

Under this theme, there were three codes developed; namely how employers are involving, needs of renewing relationships to the employers and reasons of unable to address employers’ needs and feedbacks.

*U: “Inviting **some employers** and asking their situation **once in 2-4 years time** is not enough to know the **real needs of the employers**” (line 26).*

*U: “**At local level**, we have discussed with the employers relevant to Civil, Mechanical, Electrical trades who are working near our technical school” (line 32).*

Employers' representation seems to be very low. Meetings between employers and TVET providers are held 'once in 2-4 years time'; this means that there is no regular and frequent meeting occurring between the two parties. Immediately, Uttam reaffirmed and repaired his statement that "we have discussed with the employers at local level who are relevant to Civil, Mechanical and Electrical trades." Here, he is defending himself and his school and blaming the central office (CTEVT) that it has not made frequent meeting with the employers. To verify this situation, the data should be collected from the central office (CTEVT) too.

*U: "Trainees go to the employers for 4-5 months for **on the job training, under their guidance, they become trained and some of the trainees get the jobs in the same company**" (line 42).*

Line 42 shows that 'On the Job Training' approach is a good means of linkage between the TVET providers and employers. Under the guidance of employers, TVET trainees have become trained and got the job in the same company, it is reflected that employers sincerely guide the trainees on their own interest to make them their own employees.

*R: "We organized a workshop in each district and discussed **what TVET is about? How can employers benefit from TVET programmes? And how can our country benefits from these programmes?**" (line 8).*

Here, Ramesh is explaining the importance of TVET programmes not only to the employers but also to the country as a whole. It seems that he is scoping the TVET programmes through the use of workshops. On the other hand, he is valuing to the employers and providing important information on how they can be benefited. These questions also give a sense that employers are not so much aware of the TVET programmes. However, organizing workshops for this purpose gives a positive message regarding the linkage between the employers and TVET providers.

*U: "**Only** one representative from the Federation of Nepal Chamber of Commerce and Industries (FNCCI) is in our **school management committee**. We also call some people time to time from the local construction companies and make the discussion in*

sub-committees. From this effort, a kind of link has established and they are getting the information about our programmes” (line 36).

*R: “I think there is an **inadequate representation** while preparing curriculum” (line 43).*

There is some linkage between employers and TVET institutions because at least one is represented in the school management committee. Here, the word ‘**only**’ one representative indicates that the employers’ representation in school management committee is inadequate (line 36). A similar message is given by Ramesh (line 43) that there is an inadequate representation of the employers in preparing curricula too. Therefore, it is easy to understand that the TVET curricula might not have adequately reflected the needs of the employers because of their inadequate participation and involvement.

Although there is a representation of employers in TVET programme, both the interviewees are agreed that there is inadequate representation that leads to weak linkage. The data showed that the ‘**linkage**’ between these two parties is important because it is referenced seven times (which is the most coded item in NVivo) while coding interview data. In this regard, Ramesh opens up his weakness and states that they have not had adequate numbered visits and meeting with the employers. He also realized that the linkages with the employers should be renewed and intensified which has not been done at the level that it should have been. Now, it is sensed that there are poor linkages between technical schools and employers.

4.2.4 Budget

The budget is another important thing that can support TVET programmes in various ways. In this regard, Uttam describes that there is a lack of budget for buying necessary materials required for teaching and learning process (line 66).

U: “We cannot say that we have adequate budget because we cannot buy necessary things required for the practical purpose and we don’t have necessary things that are required to teach” (line 66).

U: “We have about 50% administrative staff from central to the schools. i.e. which I think is more than necessary. Skilled teaching staff is always scarce, which is evidenced that an instructor is teaching all subjects in that trade (I mean 4-5 subjects). We don’t have adequate budget” (line 69).

Similarly, line 69 describes that there are two types of staff working in technical schools: teaching and administrative. A large amount of the limited budget has been spent on administrative staffs (50%) which might not be necessary in these numbers: this indicates that there might be unwise use of budget but it would be early to conclude this without looking in detail of the role of the administration. This is a great cause for concern; the main study would investigate in detail the role of administration and justification for allotting this amount of resources to it. Nevertheless, if the limited budget is spent in unnecessary places, this can have a negative impact on the teaching and learning process.

Another issue of a financial matter is associated with the donors’ funding. In the case of Nepal, donor support has been a great contribution to run the technical education and vocational training programmes.

*R: “The main reason of stopping funding by the donor agencies is the **political interference**” (line 31).*

But, Ramesh (line 31) describes that donor agencies might not be happy because there might be some unwanted political activities happening within TVET system. He used the phrase ‘**political interference**’ that indicates that the training system is affected by unnecessary political activities and might be hampering the smooth running of the TVET programmes. It means the current political activities might have a negative impact on TVET programmes. This type of practice might have affected the donor’s attitude and interest in Nepal’s TVET programmes. But, it should be corroborated through detail

investigation. However, an unhealthy practice of politics within TVET system could be one of a weakness of TVET programmes.

4.2.5 Inclusion/exclusion

This study is concerned to the public technical schools. The public technical schools are likely to address the issues of inclusion. At present, inclusion has been a hot issue for the discussion in the Nepalese politics where a new constitution is going to be constituted in the near future. The political parties are highlighting this issue that the TVET programmes should be more inclusive. The following data may give some signals regarding current situation:

R: “I don’t think that we have used the term ‘inclusion’ but what we did is that during recruitment, we had given additional numbers for certain remote districts” (line 33).

R: “In fact, we could not give this message as a result disabled did not try to come to entrance exam. This concept was not highlighted, honestly speaking; this concept was not highlighted at all” (line 35).

U: “Twenty five percent quotas only for women “(line 60).

R: “Now, it is essential because of a decade armed conflict between the Maoists and the government security forces, thousands of peoples have been injured and became disabled” (line 37).

R: “Yes it is. It will be good, if it is addressed within the policy and developed all kinds of mechanisms. Otherwise, carrying out only by CTEVT is impossible” (line 41).

“I don’t think that we have used the term inclusion” this statement (line 33) describes that perhaps they seems less aware about the concept of inclusion. It seems that women are excluded from TVET programmes because they are given priority by allocating certain quotas (25%) for them (line 60). It is also seen that remote area people are likely to be excluded from the access of TVET programme. However, they are trying to use a social model of inclusion; for example they have allocated certain quotas for women and people

of remote districts. The interview data shows that even the principals of technical schools are not much aware about the concept of inclusion (line 33). Here, both the interviewees are agreed that there is a lack of awareness about the concept of inclusion or inclusive education and training. It is also seen that there is a lack of inclusive policy, infrastructures and other additional facilities that are required to address the physically disabled such as blind, deaf and so on (line 41).

Therefore, inadequate policy to address the main essence of inclusion (challenge exclusion) could be one of the weaknesses of public TVET programmes. But, policy documents need to be studied before making this conclusion. However, encouraging to the women and people of remote area could be the positive step towards the development of inclusion. Moreover, realization of addressing conflict affected people into the TVET programmes (line 37) could be another positive aspect. Therefore, existing TVET seems to be at the cross road of developing of policies and practices towards inclusion.

4.3 Ways to improve TVET programmes

This theme is related to the second research question: *how can we improve TVET programmes?* Interviewees have suggested some ideas which can help to improve the TVET programmes in the future. The ideas provided by the participants are related to: quality improvement, fund generation, linkages between the TVET providers and employers, coordination and communication and the use of power and authority.

4.3.1 Improving the training quality

During the past, there was no system of revising and updating TVET curricula on a regular basis therefore; Uttam suggests “*in every five years course content should be revised to meet the changing market needs*”. This statement describes that the curriculum has not

been re-adjusted according to the needs of the labour market; therefore firstly, it is essential to revise and update TVET curricula to address the skills needs of the market. Secondly, it is essential to create a good teaching/learning environment by organizing and managing adequate practical facilities. Thirdly, it is essential to train newly recruited instructors before coming to teach in the technical schools so that they can instruct skills, knowledge and attitude in a certain standard.

4.3.2 Generating the fund

Technical schools have to operate in an inadequate budget. For financial support to the TVET programmes, mainly the three major activities can be done: unnecessary expenses should be controlled by managing administrative staff in other alternative places; existing resources (human and physical) should be mobilized to generate income through the establishment of a separate commercial production unit. Besides, it is essential to organize a large numbers of short-courses training to save some earnings. To perform these activities, it is essential to make a long -term plan with strong commitment to implement it. Additionally, conduction of TVET trainings in partnership with the private sectors could be an alternative approach for funding.

4.3.3 Linking to the employers

It is essential to create an environment of trust between TVET providers and employers. To ensure the adequate employers representation, at least two people from each occupational area (such as civil, electrical, mechanical, nursing, agriculture) in the school management committee should be included. It might be possible because most of the technical schools are operating trainings courses in 2-3 occupational areas. The committee meeting should be organized on a regular basis to discuss on those agenda that can address mutual interest. Ramesh suggested that there should be employers' chairmanship in the 'Council' instead of Education Minister in the current unstable political context where

Ministers are changing in every six month or one year. Although this is an important issue; it might be a topic for further investigation which would be done in the main study. However, it is important to keep a good working relationship with the employers to get their moral, technical and financial supports to the TVET programmes.

4.3.4 Establishing a liaison unit

Establishing a liaison unit within the technical school could be the core part of TVET programmes which was neglected in the past. The main function of this unit would be to communicate and coordinate with the employers and update their skills needs which would help to tighten the relationships between the two parties. In other words, a liaison unit can work as a bridge between TVET providers and employers. Additionally, this unit could be helpful for the expansion and promotion of TVET programmes as well as resolving the issues of funding and inclusion.

4.3.5 Using power wisely

‘Whatever it is written on the paper, without taking order from head office, we cannot do activities even in grass root level’ (line 6). This statement indicates that there is a power relationship between the head office and technical schools. Technical schools are not independent. It is also seen that the head office (CTEVT) has positioned itself on the top in terms of using its power and authority in technical schools too. Although it is advocated that the technical schools should be more autonomous, it is confined only within a piece of paper. In practice, the delegated power and authorities are taken back to the head office. For example, principals in the technical schools have no adequate power to reward or punish their staff which can be clear from the following excerpts (line 6).

*R: “Whatever it is written on the paper, **without taking order from head office** we cannot do these activities even in grass root level. Decentralization is **only on the paper**, the practice is just opposite to it. The head office makes a guideline for reward and punishment which is **not followed by the head office itself**” (line 6).*

Therefore, in a real sense, the head office (CTEVT) should empower to the technical schools to operate TVET programmes more effectively rather than to discourage them.

Chapter Five – Discussion of the Findings

This chapter discusses about the findings of the study in relation to the perceptions of strengths and weaknesses of TVET programmes. In other words, the discussions would be focussed on what the data tells about the main research question. It also tries to present similarities and differences of the data obtained from two different interviews.

Data from the interviews revealed that there are certain pertinent issues which are identified in the existing technical education and vocational training programmes in Nepal. These issues are related to the certain themes that were analysed in previous chapters which now are summarized under the following five headings: Curriculum related issues, graduates' quality related issues, the issues related to the linkages with the employers, financial issues and the issues related to the inclusion/exclusion.

Identified strengths and weaknesses of the TVET programmes from the analysis are discussed and summarized below:

5.1 Strengths of TVET programmes

5.1.1 Instructors having good theoretical knowledge

The data in this research revealed that the instructors of both technical schools have strong academic qualifications and have a good theoretical knowledge in them. This knowledge can be utilized not only to the instruction but also in overall management of TVET programmes.

5.1.2 Good reputation of the TVET graduates

Both the interviewees have agreed that even though the trainees do not always get sufficient practical exposure, the employers still tend to employ their graduates. Ramesh highlights that employers, particularly private employers, have a good image of the performance of TVET graduates. On the other hand, Uttam expressed some different view that private employers are not so happy particularly with the products of construction trade. It seems bit controversial; therefore, it needs to be verified by collecting data from the employers. Therefore, in the main study, the data would be collected from employers too.

5.1.3 Having a good instructors training institute

The training institute for technical instruction (TITI) is operating to train the instructors of technical schools. It provides the instructional as well as occupational skills development trainings to them. From the analysis of both interviews data, it showed that TITI provides good quality training to the TVET instructors. Therefore, having this quality instructors training institute is one of the strengths of TVET programmes in Nepal. However, it should be verified by collecting more data which would be done in the main study.

5.1.4 Team working environment

The data analysis showed that there is good team work in the technical schools which is evidenced from the spontaneous use of **we/our** 14 times while answering one question, which is quoted in chapter four. The team work could be strengthened for operating TVET programmes. However, the researcher thinks that this finding can be corroborated by collecting more information from different people and sources such as instructors or trainees, because an in-depth case study approach could be considered as an appropriate method for assessing the team working environment.

5.2 Weaknesses of TVET programmes

5.2.1 Using the years-old curriculum

Both the informants strongly agreed that TVET curricula have not been revised and updated since at least 5-6 years (quoted in chapter four). It would be difficult to incorporate new technology into the curriculum if it remains static. Indeed, it is important to revise curricula to address the real changing needs of the employers and to meet the demands of the changing technology. Therefore, using the same curricula year after year without revision could be irrelevant, which is a great weakness of TVET programmes and which might obstruct its graduates to get the job in an ever changing labour market.

5.2.2 Weak linkages with the employers

To some extent, there is a linkage between employers in various ways through school management committee meetings, occasional workshops, and on the job training programmes but it seems inadequate and weak. Employers' representation in school management committee is negligible and no clear roles are given to them. Similarly, employers' contribution in curriculum development and revision process is neglected though it is important to reflect the employers' needs into the curricula. In addition, employers' feedbacks are not incorporated into the TVET programmes because curricula were not revised since longer time. Moreover, there is no any established mechanism to communicate and coordinate between TVET institutions and employers except school management committee meetings. This situation explicitly reflects that there is a weak linkage between TVET providers and employers. What are the major problems of weak linkages and how this linkage can be made strong is the topic for further investigation which would be investigated in the main study.

5.2.3 Inadequate practical facilities

There are no adequate practical facilities in the technical schools particularly to support skills learning such as workshops / lab facilities, machines and equipment like microscopes, theodolights (used for surveying). Both participants are agreed that there are not adequate practical facilities in their schools. However, at a local level, they have made a lot of efforts to manage these facilities such as conduction of outreach programme (organizing project activities in local communities), and volunteered additional practical sessions in the morning and evening in addition to managing on the job trainings.

5.2.4 Poor understanding of the concept of inclusion

Both participants agreed that they have poor understanding of the concept of inclusion. They did not try to include those who are physically disabled, deaf, blind and so on. On the other hand, they are trying to include women, people of remote area and ethnic groups. They have allocated some special quotas for these groups during trainee selection. Both participants have reported that there is no adequate policy that can support to disabled. However, the data revealed that technical schools have a poor understanding about the concept of inclusion and inclusive education and training.

5.2.5 Inadequate practical skills in some instructors

In terms of practical skills of the instructors, Uttam and Ramesh have slightly different views. Uttam generalizes that the instructors have inadequate practical skills but Ramesh divides the instructors into two different categories: new and old. He states that old instructors have adequate practical skills and experiences because they are trained. The trained instructors therefore; are demonstrating the examples of the quality standard but newly appointed instructors have poor practical skills and have low level of motivation in

teaching. Therefore, the analysis showed that there is a lack of practical skills in some of the instructors of their respective schools.

5.2.6 Inadequate operating budget

Budget has a wider effect in different areas such as buying teaching learning materials, revising curricula, organizing the workshops to discuss with the employers. Ramesh stated that there are no more difficulties of operating budget but the Uttam highlighted that there is a serious problem of budget which is hampering to teaching and learning activities. However, both the interviewees are agreed that they do not have an adequate budget to ensure the smooth operation of the TVET programmes.

Chapter Six-Reflection and Conclusion

This chapter is broadly divided into two sections. The first section discusses the reflections on the research process which focuses on the different aspects of the research methodology. The second section presents the conclusion of this research in brief.

6.1 Reflections on the process

6.1.1 Sampling

In this pilot study, the data were collected only from those people who belong to the technical and vocational education and training setting. Now, it is reflected that the employers' perceptions are important to know what impression the employers have about the performance of TVET graduates because TVET providers have argued that employers have a good impression of their products. Therefore, in the main study the research participants would be selected purposefully from both the business and industry setting.

6.1.2 Interviewing

In this research, obtaining informed consent, conducting interview and recording interview was not difficult because both interviewees are from largely academic background and experienced in using audio tapes. In addition to this, they were quite mature and have shown positive attitude towards this research. But, it might be difficult in the main study where more number of people would be involved from different settings including the people from business and industry. Therefore, the researcher needs to prepare for facing every kind of challenge or difficulty.

6.1.3 Transcribing

It was experienced that transcribing the tapes is an extremely time consuming and tedious process, as Delamont (1992, p109) said. On the other hand, transcribing from the audio

tapes is really good because they can be re-played and transcript could be improved again and again (Denzin and Lincoln, 2003, p355). There was no problem observed regarding the understanding of the interviews while listening and transcribing.

6.1.4 Using Nvivo

It took a considerably long time to be able to use this software. As a first time user, it was challenging to learn and use NVivo. When used, the researcher felt a sense of achievement at how far I got with the software. There is no doubt it made the work a lot easier especially for open coding and showing the relationships of the codes through the graphical model. It would be extremely useful to handle huge amounts of data in the main study.

6.1.5 Analysing

Particularly, discourse analysis is not something that can be achieved overnight; there are different aspects and perspectives of the interpretation. It needs a lot of vertical and lateral thinking. The researcher felt that it is more difficult particularly for the novice researcher. It is realized during analysis that the researcher needs '**to stick to the research question**'; this helped a lot to make sense from the data in relation to the research questions. It is also realized that the discourse analysis is a difficult, time consuming and thought provoking process.

Additionally, there were many times that researcher had to re-analyse the data to answer the research question. The researcher also had to deal with the overwhelming ideas and information due to which he stopped working today and starts working again from tomorrow. It is also realized that a lot of reading back and forth through the transcripts is essential for precise analysis of the transcribed data.

6.1.6 Validating

It is realized that ‘member checking’ helped to increase the credibility of the research, which made the researcher more confident to present the results. Although the data of this study are valid, without collecting data from the employers, the study would be incomplete because employers’ views and perceptions are equally important to balance the results. In the pilot study, due to limited time, it was not possible to collect data from the employers. Therefore, in the main study, it would be worth including employers that may increase the credibility of the results through source triangulation. Nevertheless, the validity is an altogether more complex concept (Bell, 2005, p117).

6.2 Conclusion

This small scale research has provided a good learning opportunity for the researcher in the methodological aspects particularly to put theoretical knowledge into practice. The central purpose of the study was to explore the perceived strengths and weaknesses of TVET programmes through the experts’ interviews. The perceived strengths found in this research are: strong theoretical knowledge of the instructors, employers’ positive image on graduates’ performance, having a good instructor training institute and a good team working environment. Apart from this, it has identified some weaknesses which are: using of years old unrevised curricula, weak linkages with the employers, inadequate practical facilities, lack of awareness about the concept of inclusion, lack of adequate practical skills in some instructors and inadequate budget for buying necessary teaching learning materials. The conclusion drawn is based on the interviews data obtained from the principals of two public technical schools.

Additionally, this study has also explored some ways through which TVET programmes can be improved in the future which are: TVET curricula should be revised and updated on regular basis to address the ever changing labour market skills needs, adequate representation of employers into TVET programmes should be ensured, a liaison unit should be established to coordinate and communicate with the employers and other stakeholders, technical schools should be empowered practically through the devolution of power and authority from the head office (CTEVT), leaders from the head office should have minimum influence in the technical schools and a commercial production unit should be established to provide financial support to the TVET programmes.

Moreover, it is reflected that analysing, interpreting and making sense of the data is a more difficult, time consuming and challenging than collecting the data. It is also learnt that we can obtain huge amount of data from few people through semi-structured interview; it was experienced during analysis that the data were overwhelmed although it was collected only from two people. Therefore, in the main study, the data should not be collected from too many people; it might create problems in handling the huge amount of data. However, NVivo software would be helpful for coding and categorizing of data in more convenient and efficient way.

Indeed, research questions give the researcher some perspectives although the management, analysis and interpretation of qualitative empirical material is a complex process (Denzin and Lincoln, 1998, p40). Thus, research questions should be a focal point while analysing and interpreting of the data. Further, it is imperative to keep an open mind until the end of the analysis before drawing final inferences because new ideas may continue to come while playing with the same data again and again.

Nevertheless, the identified strengths and weaknesses are more tentative. This study is not an attempt to generalize the results. In order to do so, the researcher would have to collect more data and establish transferability of the findings. In general, the findings of this study will be able to inform my future work, which will lead more focussed research on the relationships between TVET providers and employers and develop strategies for the future.

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Appendix: A

Interview guide

1. Could you please tell me few things about your work experiences in TVET system?
 - 1.1 How long did you work in TVET system?
 - 1.2 Have you got the opportunity to work in different settings (rural /urban; technical schools/council, as an instructor/ manager; policy maker / implementer)?
 - 1.3 What difficulties did you find/observe while working in TVET system/settings?
 - 1.4 What are the major issues you came across with TVET programmes?

2. How did you establish your working relationship with employers (your impression, difficulties, and issues such as skill mismatch between TVET graduates and skills need of the employers-under-qualification/over-qualification, employers representation in board/committees-adequate/inadequate)?
 - 2.1 To what extent employers provide technical support to the TVET programmes (interest of teaching new skills, offering learning opportunities for the instructors, OJT placement for the trainees).
 - 2.2 What would be the good strategy for establishing better link in the future?

3. What do you say about the quality of TVET programmes?
 - 3.1 What do you say that existing instructors are well trained and capable enough to successful implementation of the TVET programmes?
 - 3.2 How do you deal with the adequacy of teaching/ learning facilities in TVET institutions (classrooms/lab/workshop/library/IT services)?
 - 3.3 To what extent do you think that the TVET graduates have got enough practical opportunities?
 - 3.4 In your experience, what would be a good strategy to increase the quality of TVET programmes in the future?

4. Can you tell me your own experience about inclusion of women/ethnic/marginalized and disabled, special educational need groups in TVET programmes (stories/events/cases/issues, policies)?
 - 4.1 What could be done to make the TVET programme more inclusive in the future?

5. How the curriculum for TVET programmes is decided?
 - 5.1 How did you involve to the employers in curriculum development/revision/delivery of TVET programmes?
 - 5.2 To what extent TVET curricula is adjusted and revised to meet the changing needs / demands of employers/companies/labour market?
 - 5.3 How employers' involvement can be improved to make TVET curricula more practical and market oriented?

6. What do you think the allocation of government budget for TVET programmes?
 - 6.1 What do employers think to provide financial support to the TVET programmes? (cost sharing, technical aids, funds, wages for OJT trainees, free delivery of the sessions)
 - 6.2 What could you do better if you get more budgets?
 - 6.3 How TVET programmes can be financed sustainably in the future?

7. What mechanisms did you use to communicate with the employers (what worked well and what did not, stories/events, liaison officer, coordination body, meeting on regular interval?)
 - 7.1 What can be done to improve coordination / communication in the future?

8. Is there anything else that you would like to add?

Thank you for your time!

Appendix: B**Exploring the strengths and weaknesses of Technical and Vocational Education and Training (TVET) programmes in Nepal: perception of TVET experts****Participant information sheet**

You are being invited to take part in a research study which forms part of my PhD studies at the University of Manchester. Before you decide, it is important for you to understand why the research is being done and what it will involve. The purpose of the study is to identify the strengths and weaknesses of TVET programmes in Nepal. Please take time to read the following information carefully and discuss it with others if you wish. Please ask me if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part.

Who will conduct the study?

Damodar Khanal School of Education, The University of Manchester

Title of the study

Exploring the strengths and weaknesses of Technical and Vocational Education and Training programmes in Nepal: perception of TVET experts.

What is the aim of the study?

To explore the perception of strengths and weaknesses of TVET programmes in Nepal through interviewing experts, this pilot study will be a base for my PhD research.

Why have I been chosen?

To achieve the purpose of the study, experienced person in TVET sector who can provide rich information in this field is essential. Considering this fact, you as a potential participant are invited to participate. In addition to you, there will be a participant for this study.

What would I be asked to do if I took part?

You will be asked to participate face to face interview at a time that is convenient to you between 1st of July to 15th of July 2010. The interview would last approximately one hour, will give me to share into interviewees' perceptions of strengths and weaknesses of TVET programmes in Nepal. At a later date, when the interview is transcribed and translated into English, I will send you the transcribed data. You will have the right to amend it. Similarly, when analysis is finished, I will also send you a copy of summary of the findings for your agreement and feedbacks that can help to increase the validity of the research findings. You will have no any risk as a participant.

What happens to the data collected?

The data will be audio –taped, transcribed, studied and reported with anonymity.

How is confidentiality maintained?

Although this is not sensitive information being collected, all data will be anonymized. I will keep audio -tape myself in my own computer and password protected. As soon as I complete transcription, tape will be destroyed and transcribed data will be kept safely in my computer until the study will finish. The recordings and the tape- scripts generated from the interview will only be made available to people directly associated with the University of Manchester.

What happens if I do not want to take part or if I change my mind?

The participation in this research is entirely volunteer. It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time without giving a reason.

Will I be paid for participating in the study?

The research is for the study purpose only. There is no any provision of payment for this research. Therefore, the participation is volunteer; I would very much appreciate it if you volunteer to the research project.

What is the duration of the study?

The total duration of the interviews will be about an hour.

Where will the study be conducted?

The interview will be organized and conducted on convenience date, day and time of the interviewees between 1July to 15July 2010. The location would be at Manchester and Reading.

Will the outcomes of the study be published?

The details of the study will be included in a dissertation or other publication with anonymity.

How can I contact you?

If you require any further information, about the scope, purposes or methods of the research, please do not hesitate to contact me through email or telephone. Damodar Khanal email: Khanal.damodar@yahoo.co.uk or Phone No: 07728924397

What if something goes wrong?

If in case, some thing happened regarding to this research, you can contact to me by above email **OR** the Head of the Research Office, Christie Building, University of Manchester, Oxford Road, Manchester, M13 9PL.

Appendix: C

Exploring the strengths and weaknesses of Technical and Vocational Education and Training (TVET) programmes in Nepal: perception of TVET experts

Consent form

After having the information about my research and what it involves for participants, if you agree to take part in interview, please complete and sign the consent form below:

- | | Please
Tick |
|--|--------------------------|
| 1 I confirm that I have read the attached information sheet on the above study and have had the opportunity to consider the information and ask questions and had these answered satisfactorily. | <input type="checkbox"/> |
| 2 I understand that my participation in the study is voluntary and that I am free to withdraw at any time without giving a reason. | <input type="checkbox"/> |
| 3 I understand that the interviews will be audio taped | <input type="checkbox"/> |
| 4 I agree to the use of anonymous quotes | <input type="checkbox"/> |
| 5 I agree that any data collected may be passed to other researchers | <input type="checkbox"/> |
| 6 I agree that any data collected may be published in anonymous form in academic books or journals. | <input type="checkbox"/> |

I agree to take part in the interview.

Name of participant	Date	Signature
Name of person taking consent	Date	Signature

Appendix: D

Thematic coding of interview transcripts

Some examples of transcribed data and their coding strips are attached in the following pages: