

TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING AND ITS
RELATIONSHIP TO EMPLOYMENT IN NEPAL: A MIXED METHODS STUDY

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DEDICATION

To my mother, Krishna Devi Sharma and father, Dev Raj Sharma

(source of my inspiration)

DECLARATION

I hereby declare that this thesis has not been submitted for candidature for any other degree.

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AN ABSTRACT OF THE THESIS OF

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The relationship between actors of education and employment is an underlying concept of Technical and Vocational Education and Training (TVET) that contributes to balancing the world of education and work. The existing literature provides an understanding of the extent and nature of the relationship between the actors of education and employment in the curriculum process. Still, it does not explore how it is framed in the broader political and socio-cultural environment. In this background, this study first assessed the relationship between actors of education and employment in the TVET curriculum process, then explored the causes that weakened their relationship and identified the perceived premises of actors for developing a good relationship between them.

The study featured sequential mixed methods research conducted in three stages. First, a survey was administered to 124 individuals with at least five years of experience in the TVET sector to assess the relationship between actors of education and employment in the curriculum design, implementation, and feedback phase. It is found that actors of education possess decision power in most activities across all the processes, and their relationship with actors of employment remains weak. A case study was conducted in the study's second phase to explain why these actors have weak connections. For this, I interviewed 15 participants among the individuals who participated in the first phase of the survey. All the participants were purposefully selected, and meaning was sought through thematic analysis. Finally, the survey was conducted with 616 respondents and analyzed through principal component analysis (PCA) to explore the factors contributing to developing a good relationship between

them. The results that emerged in the study are presented in joint display and interpreted with the relevant literature in a broader political and sociocultural context backed with systems and power theories.

The overall education employment linkage index measured (3.06) in this study indicated that employers have less decision power in major curriculum processes. Similarly, there is a policy and practice gap as the calculated index of the curriculum design phase scored lowest while the respondents considered it the most important. This study explored several reasons for persisting in this policy and practice gap. It explained them in five broader themes: lack of readiness in actors, lack of relevant curriculum, lack of quality teaching-learning process, lack of shared roles, and lack of accompanying measures.

The result of PCA followed by varimax rotation yielded five components with a total variance of 58.69%. The explored components are five perceived premises for developing a good relationship between actors of education and employment in the context of Nepal. Quality education attracts employers to collaborate with actors in the education system. However, fulfilling their felt need also determines their readiness for collaboration. Labour market responsive curriculum, defined roles and responsibilities, and accompanying measures, such as motivation and formal and efficient mechanisms for cooperation among/between the actors, were also explored to contribute to developing good relationships.

In conclusion, the actors' relationship between these two systems is a social process affected by a broader political and sociocultural environment. Developing an understanding between actors of education and employment in the design, implementation, and feedback phase of the curriculum process helps to strengthen their relationship. The insights provided by the study can be helpful to TVET providers, employers, and policymakers to implement in their existing practices and build their commitment to the process of strengthening the TVET system in Nepal.

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Prakash Kumar Paudel

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शोध प्रबन्धको सारांश

प्रकाशकुमार पौडेलद्वारा शिक्षा विधा अन्तर्गतको दर्शनशास्त्रमा विद्यावारिधि डिग्रीका लागि २०२४ जनवरीमा काठमाडौं विश्वविद्यालय स्कुल अफ एजुकेशनमा प्रस्तुत गरिएको ।

शीर्षक: नेपालमा प्राविधिक तथा व्यावसायिक शिक्षा र तालीम (टिभिइटी) र रोजगारी बीचको सम्बन्ध: मिश्रित अनुसन्धान विधिमा आधारित अध्ययन ।

अध्ययनको सार स्वीकृत गरिएको छ ।

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प्राविधिक तथा व्यावसायिक शिक्षा र तालिम (TVET) को क्षेत्रमा शिक्षा प्रदायक र रोजगारदाता बीचको सम्बन्ध एक आपसमा अन्तर्निहित अवधारणा हो । यस्तो सम्बन्धले शिक्षा र कामको संसारलाई सन्तुलित गर्न योगदान गर्दछ । उपलब्ध साहित्य सामग्रीले पाठ्यक्रम प्रक्रियामा शिक्षा र रोजगार बीचको सम्बन्धको अवस्था र स्वभावको बारेमा जानकारी गराउँछन् । यद्यपि, ती अनुसन्धानहरूमा व्यापक रूपमा राजनीतिक, सामाजिक र साँस्कृतिक परिवेशले शिक्षा र रोजगार बीचको सम्बन्धमा कसरी काम गर्दछ भन्ने कुरा खोजिएको छैन । यसै सन्दर्भमा, यो अध्ययनले सर्वप्रथम प्राविधिक तथा व्यावसायिक शिक्षा र तालिमका पाठ्यक्रम निर्माण प्रक्रियामा शिक्षा र रोजगार प्रदायक बीचको सम्बन्धलाई केलाउने, उनीहरू बीच देखिएको कमजोर सम्बन्धको कारणहरू खोज्ने, र यिनीहरू दुवैको बीचमा गाढा सम्बन्ध स्थापित गर्नका लागि आवश्यक आधार खोज्ने काम गरेको छ ।

यो अध्ययन क्रमबद्ध मिश्रित विधिमा आधारित तीन चरणमा गरिएको अनुसन्धान हो । पहिलो चरणमा प्राविधिक तथा व्यावसायिक शिक्षा र तालिमका क्षेत्रमा कम्तीमा पाँच वर्षको कार्य अनुभव भएका १२४ जना व्यक्तिहरूसँग पाठ्यक्रम विकास, कार्यान्वयन, र पृष्ठपोषणका विषयमा शिक्षाप्रदायक र रोजगारदाताहरूको बीचको सम्बन्धको बारेमा सर्वेक्षण गरिएको थियो । यस सर्वेक्षणले शिक्षाप्रदायकहरू पाठ्यक्रम प्रक्रियाका अधिकांश चरणहरूमा निर्णायक रहने, तर रोजगारदाताहरूसँग उनीहरूको सम्बन्ध कमजोर रहेको पाइयो । दोस्रो चरणको अध्ययनमा रोजगारदाताहरूसँगको सम्बन्ध कमजोर हुनाका कारण पत्ता लगाउन पहिलो चरणको सर्वेक्षणमा भाग लिएका १५ जना सहभागीहरूसँग अन्तर्वार्ता गरी मामिला अध्ययन (केस स्टडी) गरिएको थियो । यसका लागि अनुसन्धानकर्ताले पूर्व निर्धारित आधारहरूमा रही स्व-छनौट विधि प्रयोग गरेर सहभागीहरूसँग साक्षात्कार गरी विषयगत विश्लेषण मार्फत अर्थपूर्ण कारण खोजिएको थियो । अन्तिम चरणमा, ६१६ उत्तदाताहरूसँग गरिएको सर्वेक्षणलाई प्रिन्सिपल कम्पोनेन्ट एनालिसिस (Principal Component Analysis- PCA) विधिद्वारा शिक्षा र रोजगार प्रदायक बीचको सम्बन्ध मजबुत गराउन योगदान गर्ने कारक तत्वहरूको खोज गरिएको थियो । यस अध्ययनमा

देखिएका नतिजाहरू समष्टिगत रूपमा प्रस्तुत गर्नुका साथै प्रणालीगत सिध्दान्त तथा शक्ति-सिध्दान्तहरूका आधारमा व्यापक राजनीतिक र सामाजिक-सांस्कृतिक क्षेत्रका साहित्यिक सन्दर्भहरूद्वारा व्याख्या गरिएका छन् ।

यो अध्ययनमा सम्पूर्ण शिक्षा र रोजगारीको सम्बन्धको सूचकांक (३.०६) मापन गरियो, जसले पाठ्यक्रम प्रक्रियाका प्रमुख क्रियाकलापहरूमा रोजगारदाताहरूको भूमिका कमजोर देखाउँछ । त्यसैगरी, पाठ्यक्रम प्रक्रियाको सबैभन्दा महत्त्वपूर्ण मानिने पाठ्यक्रम विकासको चरणमा निम्नतम सूचकांक (२.७१) गणना गरिएको कारण यो अध्ययनले पाठ्यक्रम विकास प्रक्रियाको नीति र अभ्यासको बीचमा अन्तर देखाएको छ । यस अध्ययनमा यस्तो अन्तर हुनुलाई निम्न पाँच पक्षमा व्याख्या गरिएको छ: रोजगार प्रदायकहरूको तत्परतामा कमी, सान्दर्भिक पाठ्यक्रमको अभाव, गुणस्तरीय शिक्षण सिकाई प्रक्रियामा कमी, साझा भूमिकाको अभाव, र सम्लग्न उपायको कमी ।

प्रिन्सिपल कम्पोनेन्ट एनालिसिस (Principal Component Analysis- PCA) विधि अन्तर्गत वेरिभ्यक्स रोटेसनको नतिजा अनुसार माथि उल्लेखित पाँच पक्षहरूले सम्बन्धको ५८.६९% व्याख्या गर्दछन । नेपालको सन्दर्भमा, यिनै पाँच बृहत्तर पक्षहरूको सम्बोधनले नै, शिक्षा प्रदायक र रोजगारदाताहरू बीचको सम्बन्ध अझ मजबुत गर्नका लागि मद्दत गर्ने छ । अर्थात्, शिक्षा प्रदायक र रोजगारदाताहरू बिचको सहकार्यका लागि तत्परता बढाउन सके पाठ्यक्रमको सान्दर्भिकता बढाउनुका साथै यसले गुणस्तरीय सिकाइ कार्यान्वयन गर्नमा मद्दत मिल्नेछ । यसका लागि शिक्षा प्रदायक र रोजगारदाताहरू बीच उनिहरूको साझा भूमिकामा समझदारी बनाउन जरूरी छ । अन्य उपायहरू जस्तै, श्रम बजार प्रति उत्तरदायी पाठ्यक्रम, परिभाषित भूमिका र जिम्मेवारीहरू, उत्प्रेरणा र सहकार्यका लागि औपचारिक र कुशल व्यवस्थाले पनि मजबुत सम्बन्ध विकासमा सहयोग गर्दछ ।

निष्कर्षमा, शिक्षा र रोजगार प्रदायकहरू बीचको सम्बन्ध सामाजिक प्रक्रिया हो । यस प्रकृतिलाई बृहत् राजनीतिक, सामाजिक र सांस्कृतिक वातावरणले प्रभाव पारेको हुन्छ । यी वातावरणलाई ध्यानमा राखेर काम गर्दा पाठ्यक्रम प्रक्रियाका तीनै चरणहरू पाठ्यक्रमको विकास, कार्यान्वयन, र पृष्ठपोषणमा शिक्षा प्रदायक र रोजगारदाताहरू बीच समझदारी कायम गर्न मद्दत गर्दछ । यस अध्ययनबाट प्राप्त सुझाव तथा दृष्टिकोण प्राविधिक तथा व्यावसायिक शिक्षा र तालिम प्रदायक, रोजगारदाता, र नीति निर्माताहरूको लागि विद्यमान अभ्यासमा उपयोगी हुन सक्छ । यसका साथै उनीहरूको प्रतिबद्धताले नेपालको प्राविधिक तथा व्यावसायिक शिक्षा र तालिम प्रणालीलाई सबलिकरण गर्न सहयोग पुर्याउँदछ ।

.....

प्रकाशकुमार पौडेल

डिग्री उम्मेदवार

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ABBREVIATIONS

BTI	Butawal Training Institute
CBS	Central Bureau for Statistics
CEHRD	Center for Education and Human Resource Development
CTEVT	Council for Technical Education and Vocational Training
CVC	Curriculum Value Chain
DACUM	Developing a Curriculum
EFA	Exploratory Factor Analysis
ILO	International Labour Organization
KMO	Kaiser-Meyer-Olkin
KUSOED	Kathmandu University - School of Education
MAXQDA	MAX Qualitative Data Analysis
MMR	Mixed Methods Research
MTC	Mechanical Training Center
NLC	Nepal Law Commission
NPC	National Planning Commission
NSTB	National Skill Testing Board
OECD	The Organization for Economic Cooperation and Development
OJT	On-the-Job Training
PCA	Principal Component Analysis
QUAL	Qualitative
QUAN	Quantitative
SPSS	Statistical Package for Social Sciences
STATA	Statistical Software for Data Science
TECS	Technical Education in Community School
TSGS	Technical Stream in General Schools
TVET	Technical and Vocational Education and Training
UNEVOC	International Centre for Technical and Vocational Education and Training

CHAPTER I

BEGINNING OF THE STUDY

Individuals' knowledge and skills and their application in the world of work are fundamental aspects of Technical and Vocational Education and Training (TVET). One can learn skills in various ways, such as formal, non-formal, and informal; however, the acquired knowledge and skills must support his/her livelihood to live life respectfully. More specifically, education not only has the role of imparting knowledge about life and the world but also has the objective of enhancing skills to perform a specific task. Completing the assigned job is essential for an individual transitioning into work, gaining decent employment, and living a respectful life (Maclean & Wilson, 2009). In this case, the education system should/must not merely focus on a subjective experience but also link concepts and actions that fit into day-to-day activities (Kolb, 2014). The connection between education and employment is considered helpful for equipping an individual with the necessary skills and supporting them in transitioning from the world of education to the world of work.

The world of work, in this study, is an employment system, and employers are its key actors. I conceptualize actors of the employment system as one of the key stakeholders in the TVET system, and their engagement is crucial in supporting students' learning processes and making the workplace a viable place for learning relevant skills. Furthermore, the system is supposed to employ the youth or graduates of the education system and gain benefits from skilled human resources (Papakitsos, 2016). However, Nepal's employment system is mainly informal (Baral, 2022) and weakly connected with the formal education system (Bolli et al., 2019). Over 11% of the working-age population is unemployed, while the unemployment rate is 21.4% among the youth aged between 15 and 24 (Central Bureau of Statistics [CBS], 2019). It adds a challenge to establishing a robust TVET system.

A good relationship is an ideal situation, where actors of the education and employment systems engage meaningfully in a shared environment to achieve their common goals. It is also a condition that needs continuous commitment from the actors of both systems (Busemeyer & Trampusch, 2011). In this sense, a good relationship between the actors of these two systems is a state of equilibrium for a successful TVET system with their regular commitment and meaningful participation. In this study, the shared environment is a TVET system where actors of these systems

collectively design the curriculum, implement it, and update it with their shared responsibilities (Rageth & Renold, 2019). Their relationship is also a nexus of power-sharing between two structures to achieve common goals.

The importance of a good relationship between the actors of education, such as government officials, principals and others who represent the education system and employment, such as individual employers or members of employers' associations who own businesses/industry, is not only limited to developing a successful TVET system but also helping to achieve the goal of the actors of both systems. For example, the education system gets support to prepare quality graduates, and the employment system receives a competent and relevant workforce. In this study, education refers to formal TVET, which is the means to master an individual's skills. Formal TVET in Nepal is a pre-diploma and diploma-level programme under the Council for Technical Education and Vocational Training (CTEVT). The general schools run a technical stream programme under the Center for Education and Human Resource Development (CEHRD).

In Nepal, in contrast to general education, TVET has been explained as orienting learners to practical experiences, with the provision of workplace learning, to prepare a competent workforce needed in the world of work (Nepal Law Commission [NLC], 1988). General education has become a priority of modern education; however, TVET also begins in some selective specialized technical schools and is part of general education in public schools. The modern schools in Nepal were established towards the end of the 19th century. Their development and expansion started only during the second half of the 20th century. Modern education brought a shift in the system of family and community educating children in schools. It gradually deconstructed the social status as children from most communities are provided access to education. The learning activities confined within the school premises, in this case, family skills, which senior members used to transfer to their following generations through homeschooling, gradually stopped. The modern schools, which focus on general education, put brakes on local learning that cut out day-to-day realities. Only after 1951 did some schools open opportunities to learn occupational or technical skills. Those schools aimed to prepare human resources at two levels; the first is lower-grade technicians with a diploma in technical training or other specialized training (National Planning Commission [NPC], 1956). The schools

of the TVET stream, to increase employment and grow the country's production, paved the way for establishing the modern TVET system in the country.

Nevertheless, the education system in Nepal is often criticized for supplying the workforce without considering the demand (Acharya, 2011; Neupane, 2020; Winther-Schmidt & Shrestha, 2020). The actors from the education system are the main ones in the education process; thus, most learning occurs in educational institutions. As such, there becomes a gap in skills provided in the world of education and skills demanded in the world of work.

In this mixed methods study, in this context, I examine the TVET system and its relationship to the employment system in Nepal and explore the conditions that affect the enabling environments between them. I studied the relationship between these systems' actors using Rageth and Renold's Curriculum Value Chain framework (2019). I analysed their relationship from a systems perspective to explore its dynamics. More specifically, in this study, I assessed their relationship and explored its barriers and drivers in the context of Nepal.

In the following paragraphs, I set the scene with the TVET in a broader social-political-economic context. I introduce the overall Nepali education context and situate the TVET system. I describe how the relationship between education and the employment system is vividly perceived. I argue that the relationship between these two systems stagnates and needs their engagement. Additionally, I postulate the research purpose and formulate research questions for the study. Then, I explain how this study contributes essential knowledge in developing a good relationship between the actors, which will ultimately help build a successful TVET system in Nepal. Finally, I present a brief outline of the thesis.

Setting the Scene

Padhelekhe Kaunai Kaam, Halo Jote Maamai Maam, [if you study, it is useless; if you plough, you will get grain]. I grew up hearing this common proverb in my community that encourages work more than schooling. There might be several reasons why the community values work more than education; the proverb also means education and work are two different worlds and have no relation. This also raises a pertinent question to the research as to why society does not see any connection between education and work despite these becoming part and parcel of policy, particularly after the establishment of modern education in Nepal.

The first Education Policy in 1956 directed, “If the school is to pull the children from the apprenticeship of the home and parents and the labour market to give them essential general education, then it should provide vocational training in substitution for early productive apprenticeship employment” (Pandey et al., 1956, p. 216). It shows that little effort has been made to link modern education with traditionally run occupations. Vocational training, mainly provided in institutional settings, focussed on modern occupations such as surveyor clerks, and these trainings was mainly provided in institutional settings.

Some efforts, particularly after the 1960s, were made to develop TVET extensively in Nepal. For example, vocational education became part of the general education system in schools at the secondary level. The multipurpose schools (1961-1979) arranged practical learning in the workshop or laboratory within the schools. As it failed to link learning with the actual work situation, it could not meet the expectations of the employers (CTEVT, 1994) and collapsed within a decade. TVET-specialized institutions such as the Mechanical Training Center (MTC) in Kathmandu in 1962 and the Butwal Training Institute (BTI) in Butwal in 1963 started running TVET programmes (CTEVT, 1994). These institutions attempted to link education with employment by arranging learning opportunities in both classroom and workplace settings. Such institutions were few and only became part of the mainstream education system. However, these institutional arrangements of TVET were a milestone in further developing the TVET system that formalized collaboration between actors of education and employment in practice. Policies such as the Education Plan 1971 and Industrial Trainee Training Act 1982 also show that the partnership was a felt need with such initiatives. These policies aimed to formalize workplace learning but could not attract actors from the employment system to participate (Shrestha, 1991). Later, in 1989, CTEVT was established to address such issues and prepare competent youths.

The CTEVT runs formal TVET programmes (diploma and pre-diploma) equivalent to secondary education. Some selective public schools also run technical streams integrated with general education. Basic education (Grades 1-8) is both compulsory and free, while secondary education (Grades 9-12) is only to be freely given to all (National Law Commission [NLC], 2015) in Nepal. Nevertheless, the free education policies do not apply to schools under CTEVT, although the programmes

are offered at the secondary level according to the National Qualification Framework (See Annexure VI). The framework connects vocational and general education career paths and recognizes informal learning modes. It allows learners career mobility horizontally (vocational to general and vice versa) and vertically (upward progression) up to PhD. Nevertheless, the framework has not been implemented. Most TVET programmes lack career progression in upper levels, which has become a dead end.

The CTEVT Act 1989 mandates CTEVT to plan, implement, and monitor the TVET system in Nepal and formalize the engagement of employers in TVET (Nepal Law Commission [NLC], 1988). The act secures a representation of the employer's association in the CTEVT board council. With the provided mandate, employers have become part and parcel of TVET in Nepal. However, there is often criticism for their weak participation (Bajracharya & Paudel, 2021; Sharma, 2013). CTEVT, as an apex body for overall TVET, governs the system, and the employer has little or no role in making final decisions. In this case, TVET in Nepal is mainly supply-driven.

The context indicates that TVET in Nepal departs from traditional occupations and ventures towards modern professions with limited practical-based learning in specialized TVET institutions (Paudel & Parajuli, 2023). Furthermore, the policies formulated in different periods set a pathway for developing a good relationship between education and employment, but in practice, it stagnated. In the following section, I situate education and employment systems in the context of Nepal and argue that Nepali TVET has been facing several changes in building a good relationship.

Stating the Research Problem

The relationship between education and employment is considered one of the pillars of a successful TVET system. Pilz and Li (2020) argue that it is the basis of a robust TVET system. A good relationship between them enhances the TVET system. Given the importance of harmony between these two systems, attempts have been made to develop a good relationship over time in Nepal. The provisions, such as the CTEVT Act 1989 and the TVET policy 2012, formalized the ties at the policy level. Although a good relationship between these two systems gets policy priority, generally, it is interpreted as weak in practice. For example, Bajracharya (2021) explored employers' weak participation during curriculum development. He found that employers were regular members of the curriculum process; however, it was only to mark their participation.

On the other hand, Paudel and Parajuli (2023) found a lack of consensus between education actors and the employment system in the curriculum implementation process. Furthermore, they explored mistrust between these actors and the reluctance to share their responsibilities. Likewise, Caves et al. (2021) examined the linkage across the TVET curriculum process. They found the connection between the actors of education and employment weak in curriculum design, implementation, and feedback phase.

The situation shows that a smooth relationship between education and employment systems in Nepal has not been developed. This context could raise a pertinent question: Why could the Nepali systems not build a strong relationship? This concern raises several other what and how questions. Who is responsible for this? What are the causes of a stagnated relationship? How can their relationship be enhanced?

Some research conducted in Nepal explored various challenges which have been roadblocks to developing a good relationship between the two systems. The study conducted by Parajuli et al. (2020) accounted for only about 3% of the total education budget allocated for TVET. Financing has a strong relationship with quality teaching and learning arrangements. Graduates who are not provided with quality education become less attractive to employers. Similarly, scholars (Caves & Renold, 2018; Bhattarai et al., 2021) found a fragmented TVET system in Nepal. As such, there is a chance of duplication in the programme they provide, increasing the cost of delivering quality TVET.

Although these studies provided some explanations for the existing TVET system, they are limited and either focus on governance or financing for learning arrangements. The relationship is a social process between actors of education, such as government authorities, school principals, and instructors, among others, and actors of employment systems, such as members of employers' associations and individual employers. I argue that broad socio-political context affects their relationship. As it is a social process, many actors of society contribute or influence to make their relationship functional (Meyer, 2017). Luhmann (2013) argues that a system is closed and open. In connection with this, education has its closed functions; however, it needs to be open to the external environment, such as the employment system, to strengthen its relationships. However, in Nepal's context, the education and

employment systems seem closed and reluctant to consider each other. As a result, they remain isolated and are less able to harmonize their relationship.

Purpose of the Study

The study's overall purpose was to assess the relationship between education and employment in Nepal. Specifically, the study examines their relationships, explains barriers, and explores the premises that predict a good relationship between them in the curriculum process.

Research Questions

1. What is the existing status of the relationship between actors of education and employment in Nepal?
2. How do they explain the relationship between them in the broader socio-cultural frame?
3. What factors predict their relationships?

The Rationale of the Study

In his book *Democracy and Education*, Dewey (1916) provided the arguments for increasing emphasis on vocational education, which still is equally relevant. The scholar believed that TVET is a tool for education reform. Because of the use of time and personal abilities based more on intellectual and financial gain than it used to be, business/industry has gained importance, and the economic uprising has integrated science, technical utilizations have become more valuable, the quest of knowledge has become more experimental, and extent of industry in people's life has increased. About 80% of Nepal's workforce enter the world of work without completing their secondary education (CBS, 2019); hence, it shows the imperative of TVET to prepare basic and middle-level competent human resources with specific occupation-related skills. TVET has become essential to meet the demands of time, and the role of educational institutions and industry, among others, is crucial.

The study of the relationship between employment and education has been considerably increased and supported to develop an understanding of the TVET system internationally in recent decades. There have been many discussions about the characteristics of national TVET systems and their actors' role in shaping the systems (Buchmann & Huisinga, 2008; Coates, 2009; Gonon, 2013; Pilz, 2016). Bolli et al. (2018) argue that an engagement of the employer in the curriculum process is one of the conditions for developing the relationship between actors of education and employment. The analysis, of course, assists in understanding the TVET system and

the changing relationship between education and work in the context of industrialised countries. However, it could be argued that existing studies have not yet fully developed an understanding of how the relationships between actors exist and results in the context of developing countries like Nepal.

It is, therefore, essential to understand the status of TVET and its collaborative actors so that the TVET system can be developed successfully in the context of developing countries. The next chapter explains a research gap in understanding the relationship among the TVET actors. Hence, this study fills the gap by analysing the relationship and identifying associated characteristics. A broader analysis of the relationship between the actors in a wider socio-cultural frame is essential because TVET institutions and the employer are not a homogenous group of institutions, and one institution may have a distinct characteristic, even though they closely influence the functioning of the TVET system (Luhmann, 1995). Given such context, this study, drawing a correlation among major influencing factors, focuses on the relationship between and among the actors of the education and employment system and its determinants in Nepal's TVET system.

The relationship between TVET providers and employers in the TVET system is often interpreted as the supply and demand sides for mutual benefits (Na, 2014). However, according to social norms and values, intuitional standards and traditions, and government policies, they also operate much higher than the direct benefit-sharing level. In this regard, this study contributes substantially to understanding what obstructs and drives these actors to engage meaningfully in the TVET system in countries like Nepal.

Scope of the Study

I examine education and employment systems concerning Nepal's technical and vocational education and training in this study. In this sense, the study is confined to understanding the relationship between the actors of these two systems. More specifically, their association is focused at a functional level where actors of education and employment systems collectively work in the curriculum process (design, implementation, and feedback). This study covers technical schools (both affiliate and constituent to CTEVT) which provide formal TVET programmes. Actors of education are government officials, principals, academicians, and others representing educational institutions. Similarly, the employment system includes

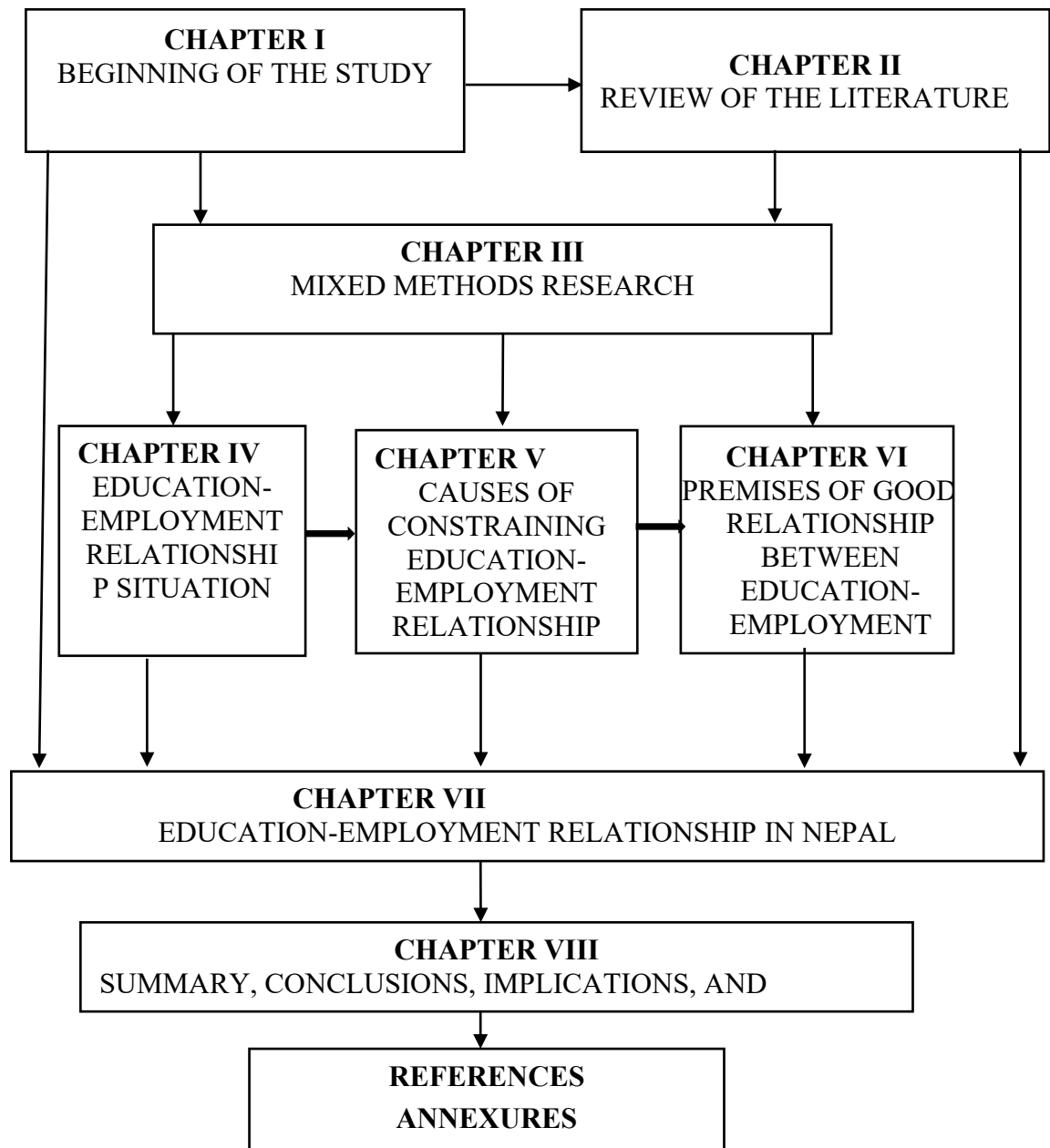
individual employers who own their businesses/enterprises or are members of the associations participating in the TVET curriculum process.

Organization of the Thesis

This study consist of eight separate chapters. The first chapter describes the study context, outlines the TVET in Nepal and its relationship to the employment system, and shows why it has been weak in Nepal. Three research questions are formulated to achieve the primary research purpose. This chapter also justifies why the relationship between education and employment is necessary to understand and develop a more effective TVET system in Nepal. The first chapter concludes by mentioning the research scope and providing a sketch of the thesis.

The second chapter contains a review of literature that explains the relationship between education and employment systems in the national and international context. These include an overview of Nepal's education and employment system policy provisions that envision a good relationship and also show how this study contributes knowledge to understanding TVET in a country like Nepal. The following chapter details the research design and methods for conducting this mixed methods study. I present the 13 steps of mixed methods and explain the typology of sequential mixed methods.

The fourth chapter mainly assesses the intensity of the relationship in the curriculum process. I present the survey results and describe their engagement level across the curriculum process (design, application, and feedback phase). In the fifth chapter, I explain why educational and employment actors have failed to develop a good relationship in Nepal. For this, I present the 36 themes derived from the qualitative study. In the sixth chapter, I present the premises of developing a good relationship between actors of education and the employment system obtained from Principal Component Analysis (PCA). The seventh chapter discusses the findings of the fourth, fifth, and sixth chapters. I discuss why it became challenging to develop a good relationship and the perceived premises by both actors of education and employment. The eighth chapter recapitulates and concludes the research findings and suggests a way forward with the research implications. Finally, references and annexures are provided at the end of this thesis. The relationships between all the chapters in this thesis are shown in Figure 1 below.

Figure 1*Outline of Thesis*

CHAPTER II

REVIEW OF THE LITERATURE

A good relationship between the education system and employment strengthens the TVET system and supports youth transitioning into the world of work. In the previous chapter, I introduced the idea of a relationship between these two systems. I showed there is a knowledge constraint in understanding its dynamics in the context of the countries, particularly Nepal. In this chapter, I further explore various dimensions of the relationship between/among the actors in the TVET system and show how it is also an outcome of a complex social process. I explain the relationship and its dimensions and describe the key debates in its understanding. The actors of both systems interact in the complex environment where they are closed to their internal structure and open to the external environment to create the other network. Further, I argue that the relationship is also contested power sharing between the actors of two systems. Finally, I conceptualize the study's theoretical framework for understanding their relationship and say that their power relation influences the curriculum process.

The Relationship between Education and Employment in TVET

Before defining the relationship between actors of education and employment, it is essential to understand these two systems. Scholars argue that enhancing skills in individuals and preparing them for the world of work is the pertinent concern of the education system (such as Maclean & Wilson, 2009; Bonvin, 2019). Meanwhile, the employment system, among others, aims to increase productivity with competent human resources (Busemeyer & Trampusch, 2011). In this sense, skilled human resources are a common goal of these two systems. Papakitsos (2016) argues that these two systems are complementary as the product of one is the requirement for the other system. However, their collaboration should not be perceived merely as fulfilling the institutional goals. It is also a process in which different social actors work collectively to achieve their goals in a broader socio-cultural context.

Rageth and Renold (2019) developed a theoretical framework for explaining the areas where actors of education and employment engage. For them, the relationship between the actors is a state of power-sharing in the curriculum process. Higgins et al. (2010) also interpreted the relationship between these two systems from an individual perspective. They argued that a career path is closely connected with personal work identity and that good collaboration between educational and

employment actors yields psychological and economic rewards to the individual. However, in countries like Nepal, the relationship between these systems is considered weak, and young people in most cases face many challenges in transitioning from education to employment pathways. Higgins et al. (2010) do not interpret the relationship between the actors of these two systems at the institutional level, where actors collectively work to support an individual in achieving their goals. Furthermore, Busemeyer and Trampusch (2011) see their relationship as a collective process; employers and TVET providers coordinate to achieve their common goals. They also see commitment between the actors as the basis for developing a solid relationship to leverage their collective work.

Synthesizing these definitions, the relationship between actors of education and employment is a social process which functions at different micro (individual), meso (institutional) and macro (system) levels (Turner, 2016). It is a collective process, and both actors of the education and employment systems interface to achieve their common goals. Although actors of education and employment play a key role in establishing their relationship, it is also a social process, and these actors may also be affected by several other external socio-cultural environments. In the following sub-sections, reviewing the available literature, I first map the field where actors of education and employment collectively work and further discuss the aspects that need to be considered to understand their relationship in a broader socio-cultural context.

Curriculum Process: An Area of Education Employment Relationship

Curriculum in education is considered a framework for the educating process. It may cover what should be included and how it should be carried out (Egan, 1978). Curriculum is also a social process that engages students, teachers, and those who design it (Young, 2014). Generally, it is developed for educational purposes and implemented in educational institutions. Shiro (2012) indicated four primary thoughts in understanding curriculum. The first is the academic view that emphasises education as facilitating students to learn about the surrounding society and environment. The second, social efficiency, assumes the purpose of schooling is developing competencies in students to make them capable of performing skills in the workplace and in their lives. Learner-centered is the third school of thought that educates individuals to grow knowledge and develop emotions. And the final, social reconstructivists believe education is a social process and societal problems can be

fixed by educating individuals. According to Shiro, generally, the curriculum is based on any of these ideologies. It gives the purpose for designing the curriculum and shows its implementation direction.

Considering these different curriculum functions, the TVET curriculum underpins social efficiency as the purpose of curriculum in TVET, among others, educating young people with the necessary skills. However, it is also a social process as actors from different systems in society enhance the skills needed in an individual. Within this framework, there have been some significant developments in understanding how the actors of education and employment systems collectively work in the TVET curriculum process.

Rageth and Renold (2019) developed the Curriculum Value Chain (CVC) as a field where educational actors share the power with the actors in the employment system to achieve their goals in TVET. For this, actors of both the systems (education and employment) in the CVC process meet to design the curriculum, contribute to its implementation, and update its content on time, making it relevant to the world of work. Table 1 below further details processes and sub-processes where actors of both systems engage and contribute.

Table 1

Phases and processes of CVC

Phases	Design	Application	Feedback
Processes	Qualification standard	Learning place	Information gathering
	Examination form	Workplace learning regulation	Update timing
	Involvement quality	Cost sharing	
		Equipment provision Teacher provision Examination	

Source: (Rageth & Renold, 2019)

According to Rageth and Renold (2019), the education and employment system actors collectively plan the curriculum, implement it and revise it at a given time interval. In the designing phase, the first two sub-processes prepare the

curriculum standard according to the employers' needs and agree on the exam process. The last sub-process in this phase is on their quality participation. This is either the employers who engage in the curriculum designing process, an individual business/industry, or their representatives. Similarly, the curriculum application phase has six sub-processes. The first two processes involve learning arrangements in schools and the workplace and agreeing on common responsibilities. The third and fourth cover the cost-sharing for managing the programme and support for establishing the infrastructure. The last two sub-processes in this phase are about managing instructors for classroom teaching and workplace learning. It also covers the level of involvement of employers in the examination process.

Types and Dimensions of Relationship between the Actors in TVET

The relationship between actors in education and employment systems is considered good when these actors are ready to work collectively. In this case, it is necessary to understand its underlying dimensions in TVET. In the following subsections, I introduce relationships between actors in the TVET system. I also explain various dimensions of understanding it in the broader socio-cultural context.

The Dichotomy of Relationship in TVET: Weak or Strong

The relationship in the TVET system is generally defined in relation to the intensity of engagement between actors of education and employment. Scholars such as Busemeyer and Trampusch (201) Rageth and Renold (2019), and Rauner and Witting (2010) see such dichotomy in the relationship. Rageth and Renold (2019) identified three ideal types: first, actors of education have all the power to decide; second, employment actors hold all the power; and third, both actors of education and employment have equal power to decide in the curriculum process. They found a successful TVET system in the country where actors of these two systems equally share the power in the curriculum process and sub-processes. Power is also a check and balance among the actors in society to bring their desired outcome (Aronovitch, 2012). It isn't easy to generalize how power gets equilibrated in a particular context. Power in developing a relationship between the actors of two different systems is more than just an acquiescence or duties; it is also an act of social interest, institutional objectives, and culture that invisibly guides the function (Dobratz, 2015). However, it is crucial to understand who is responsible for creating a narrative of the relationship that influences the system's structure (Scott, 2013). Rageth and Renold (2019) comprehensively explained the areas where the actors of the two systems

interact and engage at the programme level. Processes and sub-processes in the curriculum value chain are the fields where these actors interface and contribute to each other.

Further, Busemeyer and Trampusch (2011) explained the collaboration in terms of its governance. They discuss four major modes in which educational and employment actors work together to run the TVET system. First, in the liberal approach, TVET runs along with general education in the vocational track. In such a system, the relationship between education actors and employment becomes weak as TVET becomes less of a priority to the government, as TVET is usually provided through the vocational track. Similarly, employers' engagement remains weak as most courses are delivered in the school. The relationship in the second static model becomes weak as TVET remains part of general education. Although it lacks a separate TVET track, government priority is strong because it is integrated into general education.

In contrast, employers are the key to managing the skilling process in the segmental approach. However, the relationship becomes weak as employers have most of the share in the process and the education system (government) has less contribution. Finally, in the collective approach, actors in both the education and employment systems collectively manage the skill formation process. According to Busemeyer and Trampusch (2011), the relationship between actors is high yielding in such an approach. Nevertheless, such a strong relationship has been observed only in countries with strong education and employment systems (Higgins et al., 2011). In this case, there is a need for research to develop an understanding of the dynamics of relationships in the context of low-income countries like Nepal.

Rauner and Witting (2010) also interpreted the relationship at the system level in its governance. The engagement of the actors lies in their governance (either coordinated or fragmented) and nature (either input or output-oriented). In the coordinated system, various actors of the TVET system are integrated logically; in the fragmented, they act autonomously without coordinating. Furthermore, an input-oriented system is primarily managed through public administration, while output is managed with the products and services to achieve skill formation. For Rauner and Witting, in a strong TVET system, coordination between the actors is established with a balance of input and output.

These extents of literature provide insight into the relationship between actors of education manifesting from the micro (individual) to the macro (system) level. Busemeyer and Trampusch (2011) and Rauner and Witting (2010) saw the relationship at an institutional and systemic level. Rageth and Renold (2019) developed a more comprehensive approach that examines the connection at the programme level. This provides a robust approach to assessing the policy practice gap. However, these explanations only interpret the relationship linearly: weak and strong, coordinated and fragmented, input and output. A relationship is a dynamic process; therefore, understanding it needs further consideration.

Developing a Relationship is Actor's Readiness to Participate

The commitment among the actors is taken as one of the key factors influencing actors of these systems for collective action. A strong commitment will result in a strong collaboration (Busemeyer & Trampusch, 2011). Their commitment is also their willingness to enhance TVET. It is in the interest of the actors of both the education and employment systems to participate in the skill formation process. Nevertheless, it is important to understand how these actors become dedicated to performing the collective action in TVET. There are several claims on this: for example, Hoeckel (2008) argued that employers become committed to the TVET system if they are satisfied with the work performance of the trainee students.

In comparison, Billett (1998) posited that the interest lies in employers' capacity to recruit employees. Furthermore, the legal provision also determines undertaking of collective actions (Smith & Billett, 2005). It indicated that the relationship also results from its actors' needs. An incentive might also motivate employers for their commitment to TVET, but employers must first know its benefits (Hasluck, 2004). Bolli et al. (2020) found that employers make net benefits when they engage in the skill formation process. According to Hoeckel (2008), employers benefit in several other ways, such as the productivity of fresh and skilful graduates and low cost for the recruiting process as they get the chance to hire skilled workers whom they already know. In this case, a relationship should not be interpreted only in terms of economic benefit.

The relationship between the actors of these systems is also likely to be influenced by the priority of a nation. Countries like Germany, Switzerland, and Japan have highly formalized systems, and the actors are engaged in close relationships. The countries with strong TVET systems have developed good collaboration skills. Thus,

there is a strong commitment from actors of both systems, as in Switzerland and Germany, or employers, for example, in Japan, where mainly employers contribute to skilling young people.

In this context, commitment is for achieving collective goals and key societal goals, which is one of the aspects of relationship. In a broader aspect, the actors of these systems would also benefit from empowering the individual with relevant skills that support economic development and quality education (Higgins et al., 2010). Hanni (2019) also explains it as an avenue where actors of both systems contribute to supporting people in society for their decent work and each other in achieving their goals.

A Relationship is a Collective Work

The relationship between actors of education and employment is analysed from different perspectives; among others, duties and responsibilities remain prominent (Kaminskiene, 2009). The fundamental concern is how these social systems (education and employment) support each other (Miller, 2007) and how the relationship between actors in these two systems contributes toward improved employment opportunities and economic gain (Na, 2014). For this study, how does the education and employment systems function in society and share the responsibility?

The actors of the system are represented by social institutions and are developed over time (Leslie & Clunan, 2011). According to Abrutyn and Turner (2011), social institutions are functional. They have their unique structure, culture, and sanctions (Miller, 2007). Education and employment systems function through social processes and share the features in this case. For example, they have their own structure, culture, and rules to act internally and form relationships with the external environment. According to Taylor (2009), the relationship with the external environment in the TVET system could be assessed in the wider socio-cultural context. For him, the relationship between actors of education and employment is established with close communication. In communication, actors such as employers, unions, college staff, school staff, students, and government representatives interact and work. This interface among the actors of education and employment provides the opportunity to understand each other's organizational culture in a particular context (Taylor, 2009). More specifically, how do actors perceive each other in their local context? The established connection among them helps to define their roles.

Thus, from the literature, it can be argued that the education and employment system actors work collectively across the curriculum process; however, several other actors in society also influence their collective work. More specifically, these actors engage in the curriculum process, sometimes also going beyond it, and interact through several modes of social interaction. These interactions could be formal and informal or intended and unintended but bounded by legal provisions. In the following sub-section, in light of general systems theory, I further explain how the relationship between actors of education and employment functions in a broader socio-cultural context.

General Systems Theory: A Big Picture for Explaining the Relationship

While framing this study, I introduced the General Systems Theory as a theoretical foundation and included it in the conceptual framework developed for this study. Systems theory provides a framework that helps analyse the complex nature of social interactions within a specific environment. Meyer (2017) also posits that systems theory helps organize conceptual frameworks and understand complex systems. According to Friedman and Allen (2014), systems theory deals with the individual as microsystems, more extended groups of individuals or families as mesosystems, and on a macro level, focus on large systems, such as communities and organizations. This study concentrates on the macro level, where two systems interact and build a relationship in a social environment.

Nevertheless, actors in the micro and meso levels equally influence the functioning of a social system at the macro level (Bronfenbrenner,1977). In this study context, actors such as school principals, instructors, and individual employers are at the micro level. At the meso level, technical schools and businesses/industries are connected to the function of the overall TVET system at the macro level.

Scholars such as Durkheim (1972) and Parsons (1980) were pioneer sociologists who contributed to developing the theory of understanding the social process from a systems approach. A system, for them, was an organized whole comprised of components (Bertalanffy, 1968). In this case, the TVET system and actors of both education and employment systems are part of it. However, both the education and employment systems are not only part of the whole but also have their internal structure. Each system is whole but could collectively work to function with the other systems. Luhmann (1995) departs from the early idea of the whole and its parts to structure the social systems. He further argues that the systems also function

in their way; hence, they are different from other systems but cannot be indifferent to them, as they exist in the same society.

Luhmann's general social systems theory becomes the most appropriate approach to explain the relationship in this study. It is a social process, and according to Luhmann (1995), every social contact is a system. In other words, the general social systems theory explains that every system develops a relationship with different social systems. Although a system shares the environment, it also constitutes its structure and goal. Both education and employment systems have their purposes; however, they also share the goal of preparing a competent human resource. Luhmann also argued that systems have a dual nature as they are closed to their environment and open to the external environment for structuring the other structure. It happens when one system in society establishes communication and maintains relationships with other systems. For example, the education system is open to the external environment as it aims to serve an individual of the society; however, it is also closed with its internal system of pedagogy.

Communication among the social actors in the environment is crucial for sustaining a system. Luhmann (2013) argues that systems are closed and open to the environment and often get changed with the external environment. In such cases, education and the employment system have their internal environment; however, they are also affected when they come in contact with other systems. Luhmann further argues that the effect can be both negative and positive. For example, an employment system can increase productivity if it receives competent human resources from the education system and vice versa.

Luhmann (1995) also argued that although every social system has its boundaries, members of the system often cross those boundaries. For Luhmann, crossing the borders is not breaking the rules but interacting with other systems that, in this case, contribute to developing relationships. For example, a system of education is regulated in its internal structure, which is more important than interdependencies with the external environment. Such an exterior environment is external for one system, but in itself, that 'external environment' is a part of the system. However, it cannot be isolated from the needs of society, i.e., enhancing skills according to the requirements of society. In this sense, interaction with other systems, such as the employment system in this study, also becomes an essential process for the education system.

The system structures itself with its internal and external environment (Luhmann, 2013). All social systems operate with the environment; no environment exists without systems. In this case, the education and employment systems share the setting for the existence of the TVET system. Relationships develop in a shared environment, and no TVET system becomes successful without it. Further, Luhmann (2013) posits an environment is always a complex phenomenon because it encompasses various constitutive systems. Luhmann's general social systems theory does not explain the complex nature of the environment where actors of the social systems develop a relationship. This brings us to the importance of power theory in understanding the dynamics of their relationship.

The Relationship between the Actors: Nexus of Power Sharing

It is important to understand which actors are responsible for creating a narrative that influences the structure of the system. Scholars (such as Hill & Verone, 2017; Lawrence, 2008) suggest analysing power relations that regulate the social process in a specific context. According to Scott (2014), power influences the systems' functioning. He argues that within a system, "values are preserved, and interests are protected only if those holding them possess and retain power" (p. 25). In this regard, power is not always a top-down process; it can exist everywhere and advance social actors with their values and interests.

Power has been defined in various ways: for Parsons (1971), power is collectiveness to achieve the goal; for Lukes (1974), resistance; for Weber (1978), exercising self-interest; and Avelino (2021) takes it as an essential in the social process. In this case, power exists in the social process in different forms and for various purposes. Power, in this study, is collectiveness to achieve goals. Power can be in any form and everywhere. It makes relationships among the actors of society more complex (Foucault, 1980a). Power relationships are not always visible and are most effective even if they are invisible (Lukes, 2005).

Weber (1978), among others, posited that power could be authoritative and exercised through government power and social and traditional rules and norms. In this case, the education system possesses authoritarian and traditional power as schools typically represent the government and are important assets in society. However, the economic power of the employment system equally becomes an important capital to hold power in society (Bourdieu, 1989). Actors of these two

education and employment systems possess unique power, and this possible power struggle also becomes essential to their relationship.

In connection with these arguments, I also draw the concept of power theory and conceptualize the relationship between the education and employment system as a complex social process. A good relationship, in this case, is an outcome of the collective actions of actors. The systems are different in their functioning from other systems but are not indifferent to each other as they share the same social environment. Although a good relationship contributes to these systems achieving their shared and individual goals, there is a chance of resistance if either of the systems imposes self-interest. The power of actors from the education or employment system becomes dominant in the TVET environment to influence their relationship. Hence, a good relationship between the actors of the two systems is a situation where actors of different systems establish an agreement on their roles and responsibilities in their collective action.

A Gap in Understanding the Relationship between the Actors

From scholarly arguments in the previous section, it is evident that a good relationship between the education system and employment supports them in achieving their goals collectively. However, the review of the existing literature indicated that the relationship between is yet to be examined and explored. Various scholars (e.g. Tylor, 2009; Pillay et al., 2014; Gessler, 2017; Bolli et al., 2018) have made efforts to examine this relationship. For example, Taylor (2009) studied the area of partnerships in the broader context of the employment system, TVET actors' and power relations between various TVET stakeholders. His first wide field of collaboration is the political or institutional context in which the labour market and the network are set, based on industry education relations. The second field for partnership is implementing an apprenticeship program at a local level. This will also support the generation of the necessary resources for conducting a program. The third important field of collaboration is the 'proximal process' where connections between and among partners (employers, staff of TVET providers, representatives from the government, and unions) take place (p. 331). The last field he identified is the partners' organizational culture for a particular programme. More specifically, how do actors perceive each other in their local context? Although these possible fields of partnership also contributed to understanding the relationship between education and employment, a study by Bolli et al. (2018) further developed the index for measuring

the linkage between these partners (education and employment). For this, the authors employed three phases (design, application and feedback) of the Curriculum Value Chain (CVC) framework of Ragoth and Renold (2019). This linkage also allows for measuring shared power between the actors of two (education and employment) partners and confirms the intensity of their engagement. Their study contributes to developing a measure for linkage; however, it does not explain how the relationship is influenced (drivers and barriers) in a broader socio-cultural context.

A qualitative case study conducted by Pillay et al. (2014) in Australia explored the effectiveness and efficiency of industry–school partnerships. Though the study found some evidence of partnership activities associated with efficiency and effectiveness, there was little evidence where partnership principles were executed systematically. The study implies that industry–school partnerships would support the system in implementing and managing the partnership principles. However, the study did not explain what drives these actors to translate their responsibilities into practice.

In the other context, Gessler (2017) conducted a survey study on collaboration between companies and vocational schools in the German dual apprenticeship system. Although the German dual system was started with principles of equal responsibilities, a partnership of equals, and close collaboration between companies and vocational schools, the survey demonstrated a weak partnership. A majority of employers do not or, instead, seldom engage with vocational schools. Collaboration with the employment system did not become essential, and students remained far from the workplace realities, which had a negative effect on their employability. Although the study recommended developing a strong collaboration at the level of institutions and actors, it did not elaborate on how such strong collaboration can be developed.

Some studies in Nepal describe the relationship between education and employment (Bajracharya & Paudel, 2021; Caves et al., 2021; Thapa, 2018) but are insufficient. Caves et al. (2021) measured the employers' participation across the curriculum process and found it relatively low (2.5) compared to those countries where the TVET system is functioning successfully. The study explored the weak linkage but did not explain why the TVET system could not develop more strongly in Nepal. Bajracharya and Paudel (2021) analysed employers' participation in the curriculum development process and found that employers were less engaged and owned less of the prepared curriculum. The study, however, does not provide their engagement in the application and feedback phases of the curriculum process.

Similarly, Thapa (2018) found that employers had low participation in curriculum design and the application process. The author found that the employers, specifically people from relevant businesses/industries, were not involved in providing core competencies pertinent to the labour market. Instead, the curriculum was developed theoretically by the instructors and academicians from the university, and employers remained witnesses in the process and in the end participated for the acknowledgement. The study only provides evidence of employers' weak participation; however, it does not explain the reasons for the situation.

In summary, the literature shows that understanding the relationship between education and employment is complex since it manifests in multiple types. Moreover, previous studies offer few approaches the author can understand and explain in the specific context. At the same time, some approaches exhibit systems from an individual perspective and a system perspective. These studies highlight the nature, engagement, and intensity of their relationships. Nonetheless, these studies indicated that further dimensions might need consideration to understand the relationship in the practical context. In addition, most studies describe the specific elements of their relationship. Therefore, this study departs from prior works by exploring the barriers and drivers that affect the relationship between actors of education and employment in a broad socio-cultural frame and fulfils the literature gap. This also builds on a systemic perspective about the relationship between the actors, which helps us understand how the engagement between these two systems results in a favourable situation.

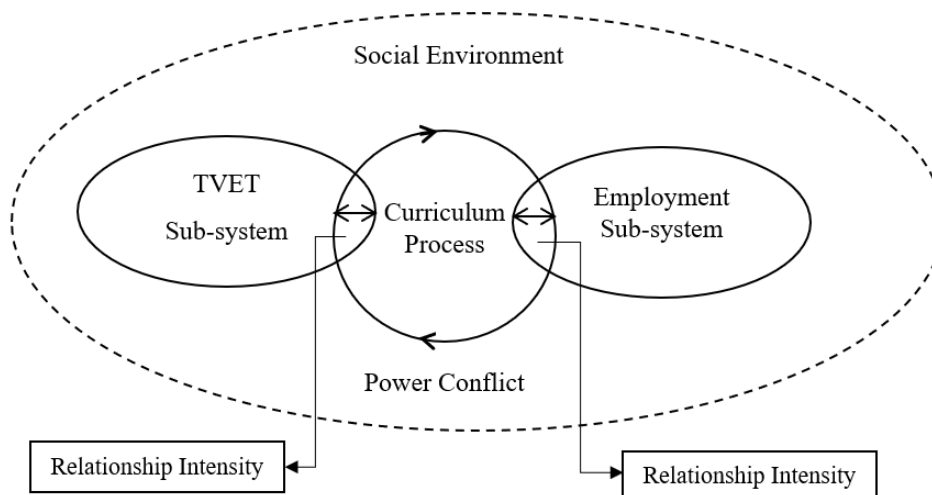
Theoretical Framework of the Study

The theoretical framework supports defining complex social structures. I use the Curriculum Value Chain of Rageth and Renold (2019) to assess the relationship between actors of education and employment in the curriculum process. The CVC framework allowed me to examine and analyse the processes and sub-processes underlying the TVET system. The functioning of the TVET system also depends on the extent of collaboration amongst its key stakeholders. The perceived criteria for shared responsibilities also predict their relationship. It also highly depends on how a system maintains its internal environment and interacts with the external environment. In this case, system theory allowed me to explain their relationship in a macro, meso, and micro-level context. The approach also supports explaining how the actors in the system perceive themselves for their future performance and contribute to

equilibrating the environment, i.e., the TVET system, through their collective work. The relationship between actors of two systems is also a social process that exists in a complex environment. The power theory further supports analysing their relationship and how it functions in a complex environment. Notably, the power conflict between the actors of the education and employment system also influences their relationship. Moreover, invisible factors are equally influential as the visible effect of their relationship across the curriculum process. The theoretical framework of this study is presented in Figure 2 below.

Figure 2

The Theoretical Framework of the Study



Source: (Rageth & Renold, 2019; Luhmann, 2013; Foucault, 1980)

Essence of the Chapter

The relevant literature themes included the concepts, types, and dimensions of the relationship between actors of education and employment and systems theory to understand the relationship in a broader social context. I also discussed relationships through a power perspective to unfold the complex shared environment. There is a knowledge constraint, because existing literature does not explain how the relationship develops in a complex social environment. Finally, the researcher proposes an integrated theoretical approach to understanding the relationship between these two systems across the curriculum process. In the next chapter, I outline the research methodology that was used to understand the relationship between education and employment systems.

CHAPTER III RESEARCH METHODOLOGY

In the previous chapter, I argued that the relationship between actors of education and employment is a complex social process with multi-faceted underlying realities. In the last chapter, the design aspect was discussed, where I problematized the issue, set the research goal, and established the rationale and significance of this research. In this chapter, I discuss the philosophical and methodological approach to explain the situation and explore the underlying challenges and drivers for developing a good relationship between education and employment. Collins et al.'s (2006) 13-step mixed methods framework was a guideline for this research. Mixed methods research provided me with a framework for examining existing relationship intensity and understanding aspects in a broad socio-cultural frame. The chapter begins by articulating my positionality and describing the research method of this study in detail.

Pragmatic Research Paradigm

The research paradigm is the principle (Creswell, 2014) that a researcher believes in this research. Understanding how systems might react to the environment can help achieve specific systemic outcomes through their structural sharing. Pragmatism is a worldview that perceives knowledge as the solution to a practical problem (Kaye, 2013). Anderson and Shattuck (2012) add that pragmatic research is a meta-paradigm encompassing several theories and research methods. In this case, a pragmatic paradigm is not limited to only one research method; it is somewhat concerned with applying multiple research approaches to understand the problem in real-world situations (Maarouf, 2019). In this study, I use both post-positivist and interpretive methods to develop an understanding of the context within which the relationship between education and employment is enacted. The pragmatic perspective allowed me the flexibility to understand underlying situations and explore perceived constraints and drivers of their relationship from more than one approach.

Because of the complex functioning of the TVET system, Rauner (2008) argues there is no single research method in TVET that would help to understand all the TVET processes. This led me to the pragmatic component of the argument in this study. Yin (2018) suggests pragmatic research to answer both what and why questions in a single study. Using quantitative and qualitative data supports understanding the

phenomenon in detail, which also justifies the rationale of using multi-methods (McKim, 2017) because the blending leads to a greater understanding of the issue (Bryman, 2006; Yin, 2018). In this study, along with understanding the nature of the relationship between education and employment, it was essential to explore how the actors of these systems perceive it. In this sense, the single approach did not provide a comprehensive understanding of the nature of their relationship and the underlying factors that shape it. Hence, the integrated research approach assisted in understanding the relationship between/among the actors of the systems more intensively.

In Mixed Methods Research (MMR), the purpose of mixing plays an important role and scholars interchangeably call ‘purposes’ (Greene et al., 1989), the ‘rationale’ (Bryman, 2006), or ‘reasons for mixing’ (Creswell & Plano Clark, 2011). Whatever the scholars called it, I aimed to draw meaning using qualitative and quantitative methods in this study (Teddlie & Tashakkori, 2009). Schoonenbooma et al. (2018) explore three broad purposes for mixing different research approaches in existing mixed methods literature. The first is to explain findings generated from one strand. The second is to understand phenomena by triangulating the results of different methods (Bryman, 2006). The third purpose is to explore the phenomenon sequentially, in which one phase of the study contributes to explaining or exploring the findings of the other phase (Fetters et al., 2013). This study mainly concentrated on the third purpose, using the results of one strand, a point of departure for the other strand, and exploring the phenomenon with multiple dimensions. By mixing the approaches in this study, I examined the relationship between education and employment systems and explored the drivers and barriers that shape it.

Considering its strong relevance, in this study, I described a situation (what?) and explored the perceived relationship (why?). It provided me with ways of thinking and interacting with my research participants in the research issues and setting ontology, epistemology, methodology, and axiology in the study (Bird, 2014). According to Cohen et al. (2007), ontological assumptions contribute to bringing epistemological assumptions to the surface, and in turn, they both help us decide our methodological considerations. In this study, I measure the relationship between actors of education and employment systems in the curriculum process and explore its dynamics in a broad socio-cultural environment. In doing so, I followed both contextual and general standpoints to understand the relationship between the actors

in TVET. In this context, my epistemological position is to understand existing knowledge and its nature (Cohen et al., 2007), which could be deductively confirmed and explored inductively. I measured the relationship between them deductively, which kept me free from respondents' value; however, I also explored the aspects of the association in context to research participants' perceived understandings and values. In both situations, I respected all the values and maintained integrity (Onwuegbuzie, 2007) with all my research participants throughout the study.

Mixed Methods Research Design

Many scholars (Collins et al., 2007; Teddlie & Tashakkori, 2009; Fetters et al., 2013; Creswell & Plano Clark, 2011; Yin, 2018) have suggested various procedures for effectively designing and implementing mixed methods research. a typology of the 13-step sequential process for conducting mixed methods study. This study used a multi-stage sequential mixed methods design following Collins et al.'s (2006) 13-step typology. The first five steps helped to identify the study's goal, determine the research objective, ascertain a purpose for conducting the study, and establish why it was needed. The sixth, seventh, and eighth steps guide selecting an appropriate mixed methods research design for fieldwork. Similarly, the ninth, tenth, and eleventh steps dealt with data analysis and its interpretation procedures, and finally, the last two, twelve, and thirteenth steps are about guidelines for the researcher. This 13-step process has been incorporated into this study, and the following subsections describe them in detail.

Sequential Mixed Methods Research Design

The research design refers to the set of complete plans and detailed strategies that are guided by certain assumptions of philosophy when conducting research (Creswell, 2014). It also frames the sampling procedures, preparation of instruments, data collection process, and data analysis and interpretation of the study (Teddlie & Tashakkori, 2009).

Poth (2018) argues that mixing the strands has been a typical characteristic of mixed methods design. Each strand is generally framed on time, such as convergent and sequential approaches, such as qualitative and quantitative (Onwuegbuzie & Collins, 2007; Johnson & Christensen, 2010). Creswell and Creswell (2005) posit three primary mixed methods designs: convergent, explanatory sequential, and exploratory sequential.

Teddle and Tashakkori (2009) suggest that in mixed methods research, a researcher might use more than one strand and multiple phases according to the research purpose. In this study, I first assessed the existing relationship; second, I explained why the relationship between the actors of the education and employment system could not develop well; and finally, I explored the drivers that shape a good relationship between them. In this sense, it is multi-stage research using both exploratory and explanatory sequential design approaches (Creswell & Clark, 2014). Considering the strength and $\text{QUAN} \rightarrow \text{QUAL} \rightarrow \text{QUAN}$ appropriateness of sequential design, this study was conducted in three phases using quantitative and qualitative methods, respectively.

Sampling Design

In the sequential mixed methods study, the researcher collects data in different phases sequentially. Onwuegbuzie and Collins (2007) discuss four types of sampling frames in mixed methods research. They could be the same sampling units, different samples but the same population, a subset of sampling units for the previous phase, and different sampling units but maintaining a relationship among them. These scholars state that a researcher decides about data collection, making a solid linkage in all the strands. It includes determining whether to use the same or different participants for the following phase and the sample sizes for both strands (Collins et al., 2017). The type of analysis a researcher wants to make also might demand sample groups with specific characteristics (Newman & Ramlo, 2010). I considered two major criteria in my study: maintaining homogeneity in sampling units in each phase and ensuring adequate sample size for analysis.

Following suggestions by Collins et al. (2017), I considered the three possible challenges – representation, integration, and ethics – during the sampling process. In quantitative research, representation is related to the generality of a sample to the population (Kruskal & Mosteller, 1979). Similarly, qualitative research involves selecting individuals, institutions, processes or contexts (Lincoln & Guba, 2000). Considering both, I derived a representative sample size meeting the basic assumptions of the statistical tool used for analysis. I chose participants who contributed to answering research questions intended to answer in the study (Collins et al., 2007). The individuals who are engaged across the pre-diploma level curriculum processes from both systems are a sampling unit in this study.

Assessing the Education Employment Relationship

In the study's first phase, I measured the level of engagement between the actors of education and employment in Nepal. I collected information to calculate the average score in the processes and sub-process of the curriculum process. The study was carried out to assess the TVET and its relationship to employment in Nepal. For this, I selected individuals who had experience in the curriculum process. Skulmoski et al. (2007) suggest four expert selection criteria when a researcher has the purpose of collecting their view. The first is the knowledge and experience of experts with the issues, the second is the willingness of experts to provide the statement, the third is time availability, and the final is the expert's effective communication. I obtained the list of research participants, those who were engaged in the curriculum process, from the Council for Technical and Vocational Education and Training (CTEVT). However, I only included individuals with at least two years of experience working in the respective areas. There is flexibility in the required number of experts when research has no purpose of generalization (Skulmoski et al., 2007). Czinkota and Ronkainen (1997) collected information from 34 experts to analyze the changes in the international business environment, Bolli et al. (2018) 134 experts to calculate the education employment linkage, and Niederman, et al. (1991) used responses from 126 experts to determine the critical issues in the information system. Considering this, I also approached over 200 individuals familiar with and engaged in the curriculum process of the TVET system in Nepal. Among them, 124 respondents participated in this study. These TVET experts include school principals, employers, government officials, and individual TVET practitioners (see Annexure IV).

I used the scale developed by Bolli et al. (2018) to collect the required data, obtaining consent to use it for research purposes (see Annexure I). The prepared scale asks about actors' engagement and level of involvement in the TVET system. The questionnaire has three parts covering three phases: design, application, and feedback on the curriculum process. The first part concerns the curriculum design phase, which includes three subdimensions: qualification standard, exam form, and engagement quality. More generally, these sub-dimensions capture the process of determining the curriculum and actors' engagement in the process. The second or the curriculum application phase contains six sub-dimensions: learning place, workplace training regulation, cost sharing, equipment provision, teaching provision, and examination. These subdimensions concentrate on resulting in the process both in school and

workplace learning. Finally, the third, or the feedback phase, has two sub-dimensions: information gathering and update timing to capture the assessment of the outcome.

I obtained the list of research participants from the record of CTEVT, which were publicly available. The list was of individuals engaged in different curriculum process. The study was conducted during the COVID-19 pandemic time. So, I collected responses through phone calls. Upon contact, I introduced myself to my PhD study and requested the interview as part of the data collection process. Upon their positive response, I asked for time for the interview and called again on the set date and time. I asked participants for information, specifically about features of the Curriculum Value Chain.

I compiled the collected data in the Excel data set and calculated the index score using Statistical Software (STATA) version 15.1. I rescaled the responses into a comparable scale from 1 to 7, as Bolli et al. (2018) suggested, as they were scaled differently in all three phases of the curriculum process.

$$x_{ik} = 6 \times \left(\frac{Value_{ik} - Minimum_{ik}}{Maximum_k - Minimum_k} \right) + 1$$

Where i refers to the experts, k denotes the kth feature

Bolli et al. (2018) suggested that the second step of the calculation procedure was to weigh each process in the curriculum into an aggregate index based on participants' scores, which I requested to distribute 100% among three phases according to the importance of linkage. Finally, I calculate the average score to derive a value score ranging from 1-7 across the process and its features. Score 1 refers to actors of education having all the power, while 7 denotes actors of employment having all the power.

Exploring Causes of Weak Relationships Between Actors

In the second phase, after deriving findings from the study's first phase, I conducted two group discussions with those involved in the pre-diploma curriculum process. In the discussion sessions, I shared the findings of the study's first phase and also identified participants for an open interview. Participants in the qualitative method depend more on careful selection rather than its size (Abt et al., 2020; Mooi et al., 2018). Lohr (2021) pointed to the challenges of biases a researcher might face in purposefully selecting a sample. I was specific in developing criteria for selecting participants for group discussion criteria; however, I was flexible in choosing the participants who met the selection criteria. To address the issues, I set participants

purposefully (Miles & Crips, 2014). I included people from both education and employment systems to get the opinions of diverse groups of people from those involved in the pre-diploma curriculum process.

Seven participants, three employers, two government officers, and two TVET practitioners (the individuals who work in TVET development non-governmental organizations) participated in the first group discussion. The second group discussion was made with the six officers from CTEVT who had a long engagement in the curriculum process. These participants had prior work experience in the curriculum division, which is in charge of developing the curriculum. The technical division has priority in the curriculum application, and the research division monitors and evaluates the process and recommends new curricula and revisions. The outcome of the discussions helped me to prepare for individual interviews further. I conducted an open interview with five employers, four technical school principals, three officers from CTEVT, and three TVET practitioners who have been actively engaged in the pre-diploma programme for a long.

Among the prominent scholars (such as Merriam, 1998; Stake, 1995) who contributed to the case study method, Yin (2018) was found appropriate for my research. Yin suggests a flexible approach supporting my pragmatic standpoint of exploring the relationship between the actors. I followed the four-level protocol Yin (2018) developed for setting general rules to follow during data collection. This was important to maintain the consistency of the data collection process and, hence, the credibility of the data. The first is locating my study issue. The purpose of conducting interviews in this study was to understand the gap assessed in the study's first phase. This finding was a point of departure, and I asked why employers have weak participation and in which context their engagement will increase. The second was the data collection procedure. The third protocol was to prepare questions for the interview. The major themes for the questions (e.g., overall, how would you describe the existing relationship between actors of education and employment? Why could they not develop a good relationship? How is their relationship strengthened?) used to gain information and explore the phenomena (Yin, 2009). There were also follow-up questions, depending on the responses that the respondents indicated. And reporting the interviews was the final set protocol. I used a diary during the interview and took notes on the conversation. A few interviews were recorded, obtaining consent from the participants. I transcribed the data after each interview and narrated the interaction

in detail. I used field notes during the individual and group discussions (Creswell, 2009), and reflective notes supported the development of the coding and meaning-making process. All digitally recorded individual and group interview transcripts were stored in the MAXQDA software, and a coded summary was generated.

Saldaña and Omasta (2016) say qualitative data analysis is a process in which the researcher notes the observations or interviews, interprets them and makes meaning of them. There are numerous strategies and techniques suggested by scholars for qualitative data analysis (such as Lincoln & Guba, 1985; Saldana, 2016; Yin, 2018), who argue that a researcher's goal is quality analysis, whatever the technique followed. Yin further suggests four underlying principles, cover all the evidence, including all the possible argument, address the most significant aspects, and demonstrate your familiarity to the issue. Following Yin (2018), I agree that computers can enhance the qualitative data analysis process. Still, I took it only as a supportive tool and did not use it for the final interpretation. I carefully read the outputs to determine whether any meaningful patterns emerged and ensured the process left no loose end. This also helped the researcher to identify any loose ends of data and address them. By doing so, the researcher was also aware of avoiding excessive detours to lesser issues, diverting attention from the main point. Qualitative analysis is an iterative process, and the literature also assisted the researcher in becoming familiar with the case and making an analysis. Finally, the researcher explored five broader themes: less relevant curriculum, lack of readiness for developing a good relationship, lack of meaningful roles, lack of quality teaching-learning arrangement, and lack of strong accompanying measures containing 36 sub-themes were explored underlying causes of existing weak relationship between the actors of education and employment (See chapter V).

Exploring Perceived Drivers for a Good Relationship between/among the Actors

I conducted a cross-sectional survey to explore possible drivers for shaping the relationship between actors of the education and employment system. In this phase, I surveyed the technical school principals and employers. Surveyed employers were those who provided students with workplace learning opportunities. Furthermore, these actors participate in the curriculum designing process and are key to its implementation. According to the CTEVT report 2019, 1050 schools are providing pre-diploma programmes. The rationale for choosing 2019 data was to include the institutions with at least two years of experience sending their students to workplace

learning. This means a school needs at least one and a half years to complete the programme. Depending upon the number of students in the school, a school was found to send pre-diploma students to at least one employer, up to a maximum of three. This means that, on average, a school sent their students to 1.5 employers for workplace learning. It gave a basis for estimating the total employers' population as $(1050 \times 1.5) = 1575$. Since the purpose of the study was to include both actors of the education and employment system, the principal represented schools, and the immediate supervisor of students at the workplace learning from the employers' part. The value is given to each side, and a sample is drawn considering actors of one system as a whole. I draw the sample size (n) of both school principals and employers by using Cochran's Formula (Cochran, 1963), which is as follows:

$$\text{Sample Size } (n_0) = \frac{z^2 pq}{e^2},$$

where $z = 1.96$ for 95% confidence level,

$p = 0.5$ and $q = 1 - p = 0.5$, e (level of precision = 5% i.e. 0.05)

When this formula was applied to the population mentioned above, the required sample size for principals was 285 and 309 for employers. Many researchers (such as Costello & Osborne, 2005; Field, 2009) argue that a sample size below 300 is just fair and not good enough for factor analysis. In this case, I ensured at least 300 samples from each group.

The 36 themes (also see Annexure III) that emerged from the second phase were the basis for the questionnaire for the third data collection phase. The derived themes were items for the scale. Two sets of questionnaires were prepared, one for principals and one for employers. Both questionnaires had the same items except demography-related questions, as schools and employers have different organisational structures. The questionnaire includes three sections. The first section is about the purpose of the study and a request for participants' consent. The second section comprises demographic questions, and the third covers items presented in conditional statements (See Annexure III). These statements I present with a five-point Likert scale ranging from 1= strongly disagree to 5= strongly agree and 3 = neutral, as is commonly used in social science research (Jamieson, 2004).

I translated the instruments into the Nepali language and then back-translated them into English to ensure that the items held a similar meaning to what was initially developed (Chauhan et al., 2017). To ensure the appropriateness of the questionnaire

sets, I pilot both groups. I received 21 responses from school principals and 29 from employers out of 100 distributed questionnaires. The result has been explained in this chapter's reliability and validity section. I best utilized the lessons learnt from the pilot test. The pre-testing allowed me to rephrase a few statements to make them more reader-friendly.

The other important insight was getting back the filled-in questionnaires. Considering the pandemic of COVID 19, I sent the questionnaires to respondents' emails as Google forms. But the response rate hardly turned up to two per cent. I followed up with the respondents by telephone and came to know that only a few of them were active in their emails. I had to go for plan B to achieve the required response rate for the pilot study. I sent the hard copy of the questionnaires to those inactive in the email.

After conducting a pilot survey and consolidating the insights, I moved to the main survey. I received a contact list of school principals from CTEVT; however, they had only a record of a handful of employers. In this case, I contacted the respective schools and requested the list of the employers where they sent students for workplace learning. For this, I telephoned the respondents to get their consent to participate in the survey and confirmed their preference. I called the principals, leaving every two contacts until the desired sample size was fulfilled. The sample collection procedure was random since every respondent had an equal chance to send the responses. I stopped accepting responses once the desired responses were collected.

I developed the database in SPSS for necessary processing and analysis. Then, I entered the collected survey data into the database by digitally importing the data from Google Forms and manually entering the data from filled-in questionnaires in hard copy. I also thoroughly screened the data for any possible inconsistencies respondents might have made while filling in the questionnaire forms or entering the data into the database. For this, I checked the data in the database and generated frequency counts, two-by-two tables, and some descriptive statistics.

Factor analysis was used to explore the drivers of a good relationship (Kerlinger, 2008) between actors of education and employment. I used the exploratory factor analysis (EFA) for this purpose (Costello & Osborne, 2005) and employed the Principal Components Analysis (PCA), with varimax rotation, among other analysis methods in the EFA. PCA provides a roadmap for dipping a complex

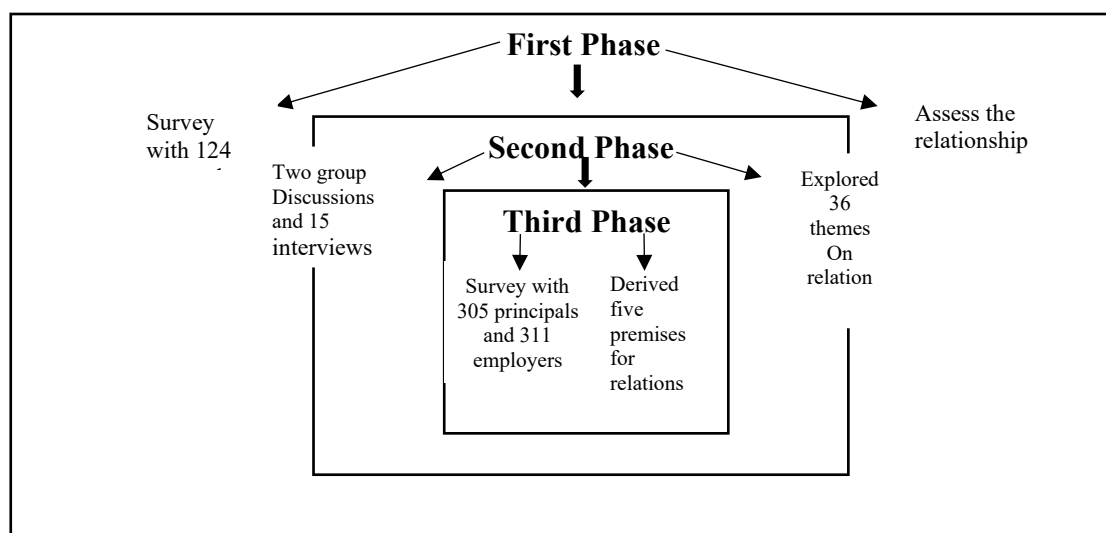
data set to a lesser dimension and tells the latent variable (Shlens, 2014). Yong and Pearce (2013) suggest that I consider basic assumptions for PCA, and I met the criteria (see the validity and reliability section below for details) before running PCA. Finally, I ran the PCA and derived five components to explain the relationship between actors of education and employment.

Mixed Methods Integration

Fetters et al. (2013) provide a framework for data integration in three levels: study design, methods, interpretation, and reporting. The first, study design level, refers to the notion of the study and the type of design developed to meet the research questions. At this level, a researcher's decisions depend on how to use two different approaches, which ultimately influences the quality of the study (Fetters & Freshwater, 2015). I sequentially used two distinct strands in three different phases. Furthermore, the results from one strand were used to build the research design for the next phase (Creswell & Clark, 2011). The second method level indicates data collection. Collins et al. (2007) suggested that a researcher can choose a sampling design in which the results from the quantitative study are used to select the individuals or cases for the qualitative study. I used different sampling units; however, they had a common characteristic of engaging in the TVET curriculum process. Finally, in the third interpretation and reporting level, I integrate the data that results from one phase of the study to become the point of departure for another step (Creswell & Clark, 2011). Figure 3 shows the integrated data into this study.

Figure 3

Mixed Methods Integration



According to Fetters et al. (2013), MMR data integration supports understanding the phenomenon in more detail than either method. Teddlie and Tashakkori (2009) further define it as meta-inference, which is derived from the integration of the findings that have been obtained from the results of the quantitative and qualitative strands. Nevertheless, MMR's interpretation and reporting stage has been the most controversial issue among others (Ivankova, 2014). Scholars (such as Onwuegbuzie & Johnson, 2006; Teddlie & Tashakkori, 2009; Ivankova, 2014) emphasize following the basic standards of each strand to ensure quality.

Ivankova (2014) suggests three primary strategies to ensure quality in mixed methods research. They are a) ensuring quality and validity issues related to MMR design, b) ensuring quality assurance and validity of meta-inferences, and c) ensuring quality assurance and validity issues in sequential mixed method design. In the following sub-section, the researcher elaborates on the measures adopted to ensure the quality of this research.

Quality Assurance and Validity Issues

Selection and implementation of appropriate procedures are considered to enhance the quality of MMR. In this line, I was also aware of Creswell and Clark's (2011) claim that inadequate sampling, faulty measures, and the choice of weak results for follow-up strands can cause threats. Tashakkori and Teddlie (2008) suggest deriving quality inferences to avoid possible challenges. For them, quality inferences include reliability and validity in quantitative strands and credibility and trustworthiness in qualitative.

The inference is a conclusion drawn from research findings in both quantitative and qualitative strands (Benge et al., 2012). At this point, Ivankova (2014) also argues that it is necessary to ensure that the findings in each strand are valid and credible. Enrichment of the quality of data indicates high-quality answers to research questions (Teddlie & Tashakkori, 2009).

Reliability is the consistency of a measure of a construct (Bryman, 2016). I used the standard scale developed by Bolli et al. (2018) for the first phase of the survey, which has already been used in the international context. However, for the measurement scale used for the survey, the researcher used the Cronbach Alpha test to check internal reliability. Kline (2016) suggests Cronbach Alpha, a commonly used method to measure construct consistency. The alpha value ranges from 0 to 1, and a score of 0.7 or above ensures that the items on the scale measure consistently

(Saunders et al., 2007). In piloting, the Cronbach Alpha test score ranged from 0.83 to 0.91 in the responses from the group employers and principals using the instrument. The Cronbach Alpha score is shown in Table 2.

Table 2

Cronbach's Alpha Test

Respondents	Items	Cronbach's alpha coefficient
School Principals	36	0.83
Employers	36	0.91

Cronbach's alpha coefficient showed high reliability, and the construct was consistent. With this, I ensured that the developed instrument measured the same thing each time it is used (Singh, 2007).

'Validity' is how well the construct measures what it is intended to measure (Creswell, 2014). I assured validity that is commonly practised at three levels: content, construct, and criterion. In this study, I ensured the content validity – the degree to which the questionnaire measures the contents of the construct- was adequately measured by the intended construct (Muijs, 2004) by applying the best possible strategies across the research process in the study. For this, I followed the standard format of qualitative data analysis to derive the findings. The analysis was also aligned with the purpose of the study. After generating the themes from the analysis, I also asked the research participants to review if their point was missing. I shared the study's findings directly and indirectly with the actors of education and employment in different forums. This helped to ensure that the derived themes covered all the contents collected from the qualitative study. In addition, extant literature related to the relationship between actors of education and employment was also referred to substantiate the study findings.

Likewise, I ensured the construct validity – how a well-prepared tool measures the construct (Bryman, 2016) – by considering the correlation coefficient suggested by Peter (1981) as an indicator for assessing construct validity. The literature commonly indicates a correlation range from 0.2 to 0.82. for this study, there was sufficient factor loading above 0.5 for each item, with most items above 0.5 (see Chapter VI). It was further assured that there was no cross-loading of the factors. Finally, I ensured the criterion validity by comparing the result of a construct of one

study with scores in other studies with a similar construct (Neuman, 2014) by comparing the result from the previous score measured from the scale.

Ethical Considerations

According to Yin (2018), the ethics of a researcher include neither plagiarizing nor falsifying data but being honest and doing no harm to others. In this study, the researcher also sets the following strategies to maintain research integrity.

The first strategy was getting approval from the research committee of Kathmandu University School of Education (KUSOED) to carry out the study on a proposed research topic. I duly considered the ethical guidelines of KUSOED throughout the study. The second strategy was informed consent. I obtained informed consent from each participant before each phase of the study (Weaver & Kaiser, 2015). The third was related to the privacy of the participants. I used aliases and codes to keep participants' identities anonymous (Gaylor & Nicol, 2016). They were also assured of using the data for research purposes only and informed about keeping collected data anonymous and using confidentially (Orme et al., 2013). This was also related to respecting the participants and committing to confidentiality (Lea et al., 2016). I introduced myself and built rapport with the research participants, and respect was also demonstrated to all the individuals who came across the research process.

The Essence of the Chapter

This chapter commenced with the study's philosophical foundation which was guided by a pragmatic worldview. It showed that the study adopted a sequential mixed methods design and followed 13 steps of mixed methods typologies. Although these steps provided a scientific guideline for conducting the study, it is not merely a linear process. These steps also might overlap, and I had to go back and forth rather than move to the next phase, which was the end of the previous steps. The data in the study was collected in three different phases; the first phase was for assessing TVET and its relationship to employment, the second phase was group discussion and individual interviews, and the final phase was a survey with school principals and employers to explore factors that contribute for developing a good relationship. I also described how the data was interpreted using relevant tools and software. I concluded the chapter with my commitment to integrity in the research. In the next chapter, I present the study's first phase findings.

CHAPTER IV

EXISTING RELATIONSHIP BETWEEN EDUCATION AND EMPLOYMENT

In the previous chapter, I explained my pragmatic approach to conducting a sequential mixed methods study. I also presented that this study was carried out in three different phases. This chapter discusses the outcomes of the first phase of the survey study. First, I present the current practice of the curriculum process based on interviews conducted with officers in CTEVT. Simultaneously, I discuss the calculated score of education employment linkage. The study found that the relationship between actors of education and employment has strengthened over time, as illustrated by the increased index value compared to the earlier survey. However, the study also found that the relationship is not yet strong, where decision power among the actors is distributed unequally. Educational actors still carry out most of the activities in the curriculum process, and employers' roles are less effective in curriculum design, implementation, and feedback phases. In the following sections, findings are presented in detail.

First Phase Study Findings

In the first phase of this study, I assessed the employment situation in education (as mentioned in Chapter III in detail). I also explored the existing practice of curriculum processes. I collected data from the individuals who had at least two years of engagement in the curriculum process in pre-diploma level programmes. The respondents' descriptions are presented in Annexure IV.

The findings of the study are presented at two levels: the objective weighting of processes in each phase and the subjective score. In the first weighting level, as explained in Chapter III, respondents were requested to distribute the percentage up to 100% in three phases of the curriculum process, considering their importance. In the second level, respondents were asked to rate the engagement quality to obtain a score using the average of the distributed importance of each phase. The responses were measured on a 1 to 7-point Likert scale, and the index value was also given accordingly. Index value 1 refers to actors of the education system having all the power to make decisions in curriculum processes.

In contrast, seven refers to all the power concentrated on the actors of employment. As presented in Table 3 below, the overall linkage between the actors of education and employment systems obtained 3.06. Although the score was found to

increase compared to the previous study, the actors of education have more power in deciding on the curriculum process in general.

Table 3

Overall Score in all Phases of Curriculum Process

Name of phase	Weights	Index Score	
		This study	Previous study
Design phase	42%	2.71	2.6
Application phase	34%	3.52	3.1
Feedback phase	24%	3.00	1.5
Overall	100%	3.06	2.5

Source: Researcher's field data and previous study is findings of Cave et al. (2021)

The implementation phase scores the highest (3.52), followed by feedback (3.00), and design the least (2.71). In the following subsections, I describe the existing practice of employers' engagement and the calculated index score across the curriculum processes.

Curriculum Design Phase

The Curriculum Development and Equivalency Division, which I will also be referring to as the curriculum division for simplicity, under the Council for Technical and Vocational Education and Training (CTEVT), is responsible for making necessary arrangements for curriculum design. The division uses the Developing A Curriculum (DACUM) process for developing its curriculum, illustrated in Figure 4 below. It is a rigorous and scientific process of developing curricula by analyzing requirements through the need assessment of a given job area (Kang et al., 2012). According to Norton (2009), in the DACUM process, expert workers of respective occupations are guided by trained facilitators to identify the duties and tasks (competencies) along with necessary knowledge and skills, tools and equipment, and workers' aptitudes of the particular occupation. All the curricula prepared by CTEVT have to go through the DACUM process.

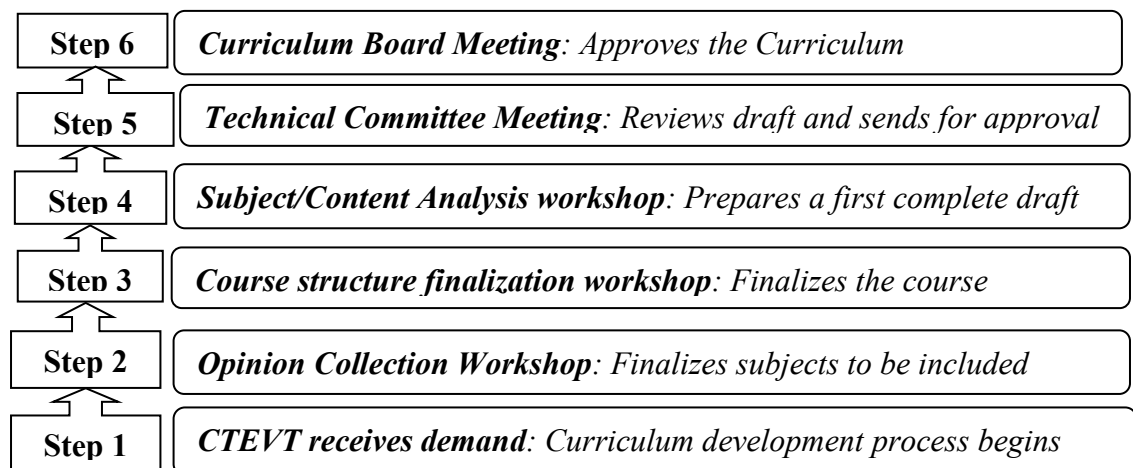
According to Bishal, 50 years old male officer, working in the curriculum division for over twenty years, during the interaction, mentioned that all the curriculum has to go through the DACUM process; however, there are variations in the sub-processes. He indicated that the availability of time and resources were the major indicators following all the set sub-processes. He added that *we sometimes shorten or merge one step with another; however, we do not skip the basic required*

steps entirely. Nevertheless, Nickbeen et al. (2017) see a limitation of DACUM if either of the steps is weak in the process as one emerges from the other.

The curriculum division of CTEVT principally goes through eight steps; however, in the case of formal programmes (pre-diploma and diploma), there are six steps. The practice of the curriculum development process is illustrated in Figure 4 below.

Figure 4

Curriculum Development Process



Source: Author's illustration based on interaction with officials at CTEVT

According to Ajit, 45 years old male officer working in CTEVT for over 15 years, *generally, there is uniformity in the process, but in preparing academic courses, we shorten it*. The reason for it was a literature review, which generally gives a basis for job analysis instead of extensive workshops and verification workshops which are normally skipped while preparing academic courses. It reduces the number of engagements with the employees in contrast to preparing a curriculum for short training.

The TVET curriculum development process principally follows the competency-based approach that emphasizes increasing the work competency of the workers as defined by the employers. There are two types in practice: skills-based (competency-based) and knowledge-based curricula. In the competency base, relevant skills become a priority thus, employers are key to framing the standard, while in the knowledge base, the actors of education (Köpsén, 2020) as knowledge becomes important. In both approaches, deciding the standard becomes vital to make it relevant (Bathmaker, 2013).

The first step in the curriculum development process of CTEVT is receiving a demand for a new curriculum. The needs come from various sources. According to the officers, three sources primarily set a pathway for preparing a new curriculum. The first is employers' requests, the second is the recommendation of various studies conducted by the organizations, and the third is occasional demands from multiple stakeholders. The last one has no specific source as it might emerge from various sources such as a workshop, government need, individual suggestions, etc. In this context, a director of the CTEVT shared that *last time, we received a demand from the government to prepare a curriculum to train supervisors and operators. This came suddenly, and we had to design it quickly.* He also informed me that the allocated budget determines how many curricula they prepare in a fiscal year. The curriculum division makes Rapid Occupational Analysis (ROA) based on demand. It prepares a short outlook (tentative name, nature of the occupation, international practices, etc.) to visualize the nature of the proposed curriculum. Sometimes, though it is rare in practice, an occupation-based rapid survey is conducted where a researcher goes to the field and asks the employees about the nature of the work and figures out the outlook of the curriculum.

In the second step, an opinion collection workshop is organized. About 10 to 15 individuals participate in the workshop, including representatives from employers' associations, technical schools, and academicians from respective fields. They discuss the outlook of the curriculum and provide suggestions, especially on subjects included in the curriculum.

The third and fourth steps are the course structure finalization and subject/content analysis workshops. In the course structure finalization workshops, a subject committee (employers and other invitee experts, mostly academicians and officials from CTEVT) is formed of 8-12 members. This committee finalizes the course structure and content to be included. Most committee members also participate in subject/content analysis workshops. In this workshop, subject committee members discuss and agree on course hours, nature of delivery, mode of examination, etc. and prepare a draft of the new curriculum.

A technical committee meeting is the fifth process. The committee reviews the content draft and curriculum structure prepared by the subject committee. The committee includes the instructors, subject experts (academicians), representatives from employer associations, and sector skills committee members (if available).

CTEVT forms the sector skills committee of employers in the specific occupation sector who usually participate in the curriculum development process. The committee recommends the final curricula for approval in the committee by curriculum board members. The curriculum board includes representatives from employers' associations and government officials. The meeting of board members approves the curriculum and directs it to disseminate to the respective TVET providers for implementation.

The existing curriculum development process shows employers are also becoming engaged across the process; however, they are not solely the source of the curriculum, nor the deciders on the content of the curriculum. Schröder et al. (2013) posit that employer demand is a major source for preparing the TVET curriculum to make it relevant. In the context of CTEVT, curriculum development seems to depend more on curriculum developers and academicians and less on employers. More importantly, actors of the education systems are in the position to decide on the standard for classroom and workplace learning.

In the curriculum design phase, the first two sub-processes are related to preparing the curriculum standard according to employers' needs and agreeing on the exam process. Similarly, the last sub-process indicates the quality of actors' involvement based on the share of represented employers and whether they participated individually or represented the occupation sector.

Table 4

EELI Score and Weight in the Curriculum Design Phase

Name of processes and features	Weights			Index Score	
	Phase	Process	Features	Present Finding	Previous Finding
Overall Design Phase	42%			2.71	2.6
Qualification Standards		16%		2.26	2.5
<i>Standards: Involvement</i>			16%	2.38	2.4
<i>Standards: Decision power</i>			0	2.13	2.5
Examination Design		12%		1.74	1.8
<i>Standards: Involvement</i>			12%	1.72	2.4
<i>Standards: Decision power</i>			0	1.71	1.7
Involvement Quality		14%		2.74	2.4
<i>Career vs Occupational vs Job</i>			0	1.36	1.0

<i>Business/Industries vs Employers' Associations</i>	4%	4.38	5.1
<i>Represented firm share</i>	0	2.76	2.8
<i>Legal definition of involvement</i>	10%	3.69	2.8

Source: Researchers' field data and previous study is findings of Cave et al. (2021)

As presented in Table 4, the respondents weighted the highest (42%) for the design phase compared to the application (34%) and feedback (24%) (see Table 5 & Table 6). This also means that the respondents rated the design phase as the most crucial phase among the others. Caves et al. (2021) also found that the design phase is the most important part of the curriculum process. Ertl and Stasz (2010) also found the importance of employers' engagement in the designing phase. Further, they explained that employers took an interest in graduates when they were engaged in a meaningful role. Contrarily, this study found employers' weak engagement in the curriculum design phase. An overall index score of 2.7 compared to 2.6 in the previous research indicates that employers still have less power in making final decisions across the processes. The lowest score of 1.7 in examination design showed actors of education design all the standards of the examination. Employers' engagement in developing qualification standards and their representative participation calculated slightly high 2.7 compared to other sub-processes in this phase; however, the score is low on the part of employer meaningful engagement compared to countries such as Denmark 5.0, Switzerland 5.4, and Germany 4.3 (Bolli et al., 2018) where TVET is considered a successful system.

Curriculum Application Phase

Employers' engagement in the curriculum implementation process supports young people in gaining something that classroom learning cannot offer (Stanley & Mann, 2014). In the curriculum application, both technical schools and employers collaborate to deliver quality classroom learning and arrange student workplace learning. However, according to Ashok, a male officer from CTEVT, there is a tri-party engagement during the implementation phase. He further shared that the schools apply the curriculum after the curriculum division organizes a curriculum dissemination workshop among the school principals and coordinators. CTEVT regulates the curriculum overall, but the schools/TVET providers are in charge of delivering it in the case of pre-diploma programmes. At the request of schools,

employers generally provide a space for students to learn in the workplace and support supervising trainee students during workplace learning.

A study by Henrich (2016) found that employers showed more concern for skills in graduates relevant to their demand in the USA. He also identified a gap, where employers did not collaborate with the education system during the skills formation process. Similarly, I found a lack of coordination between the actors at different levels in this study. The schools were the key to bringing curriculum into implementation. Still, these schools follow the unitary governance of CTEVT as it is in charge of implementing the programme, including pre-diploma across the country. For example, the CTEVT prepares an annual academic calendar for its constituent and affiliated schools and directs them through regular monitoring to deliver the programme accordingly. The council also sets the entrance exam for enrollment and publishes the entrance results.

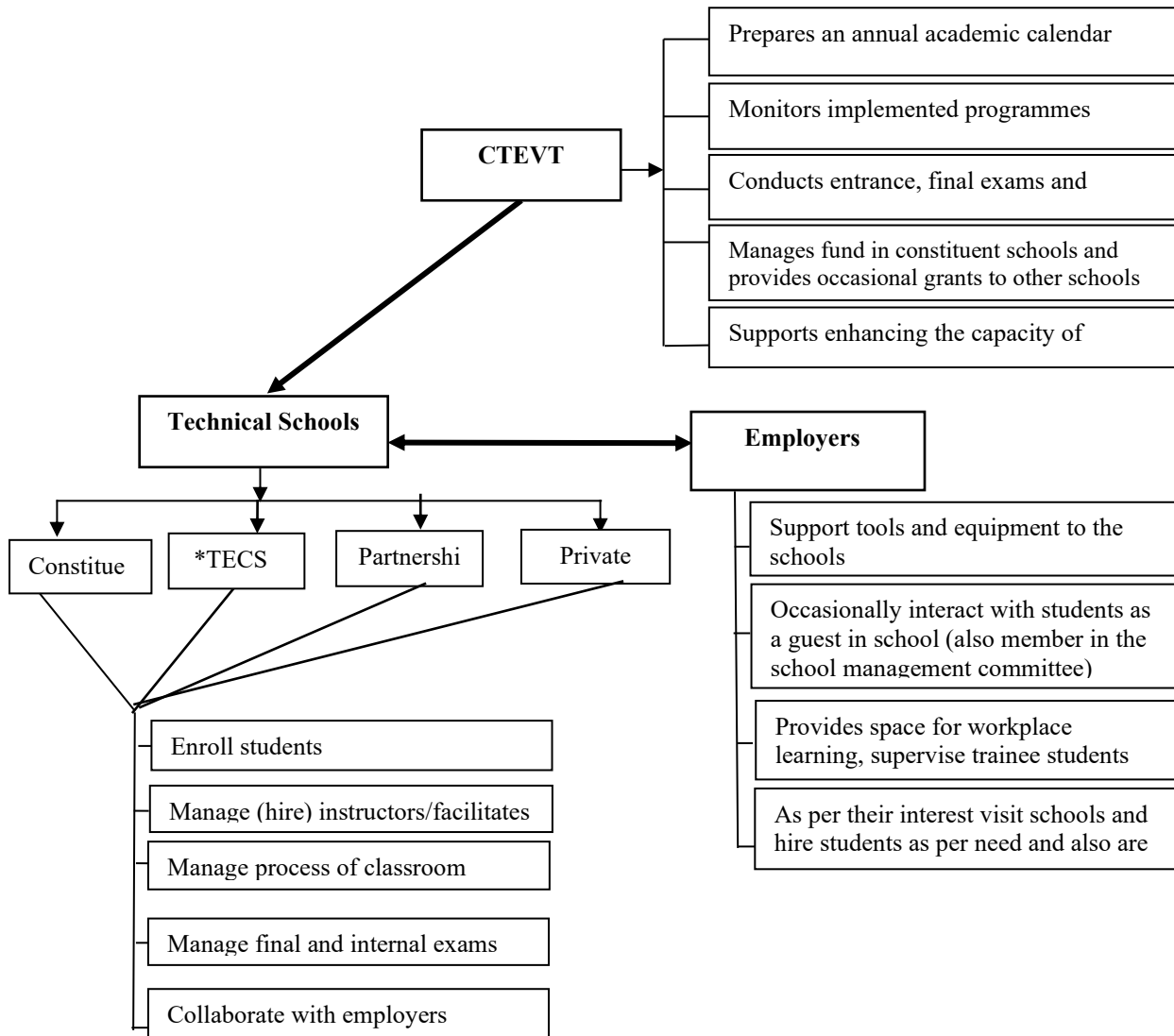
The schools enrol the students who pass the CTEVT entrance exam. All the schools are responsible for arranging classroom study and workplace learning for the students as a course requirement. One of the directors of CTEVT said, "*Schools send the employers a request letter for placing their students for workplace learning*". The school facilitates placing students in the business/ industry for workplace learning subject to monitoring by the school itself. Similarly, the school is also in charge of the internal evaluation of the students through practical work and project assignments. CTEVT conducts the final examinations at the end of the academic programme, the primary evaluation criteria for getting students to graduate.

The director informed us that the key role of employers in the curriculum implementation phase is to provide a space for trainee students to learn in the workplace. However, employers also assign a supervisor among the employees to support students and evaluate their performance. The supervisor usually evaluates trainees based on their attendance and work performance and sends the evaluation marks to the respective schools once the trainee completes the allotted period. Some employers also support the schools with tools and equipment as per their interest and participate as resource persons in the school's regular programme if invited. He also said, "*More recently, there has been a provision for employers as a member of the school management committee, particularly in the schools which run the apprenticeship programmes*". Employers sometimes also visit schools and hire

students according to their needs. Figure 5 below shows the current practice of curriculum application.

Figure 5

Curriculum Application Process at CTEVT and its Schools



Source: Author's illustration based on interaction with officials at CTEVT

This study covered six sub-processes under the application phase. The first two refer to the provision of workplace learning and how well it is managed to ensure quality. The other three sub-processes include whether employers share costs, provide equipment, and send teachers for classroom education. The last sub-process explains how employers take practical examinations if there are provisions for the same.

The survey results in this study indicated actors of education have a prime role across the processes. The calculated score (3.5) shows employers have a relatively more substantial role in the application phase than in the curriculum design phase.

Table 5*EELI Score and Weight in the Curriculum in the Application Phase*

Name processes and features	Weights		Index Score		
	Phase	Process	Features	Present Finding	Previous Finding
Overall Application Phase	34%			3.52	3.1
Learning Place		13%		3.70	3.1
<i>Classroom vs Workplace share</i>			13%	3.41	3.1
<i>Legal definition of share</i>			0	4.00	3.8
Workplace Training Regulation		9%		6.05	4.6
<i>Work Contract</i>			2%	5.16	5.0
<i>Curriculum: Existence</i>			0	6.56	6.3
<i>Curriculum: Implementation</i>			7%	4.12	4.4
<i>Workplace Training requirements</i>			0	6.61	5.2
Cost Sharing		2%		2.23	2.1
<i>Classroom Education Costs</i>			2%	1.25	1.7
<i>Workplace Training Costs</i>			0	3.26	2.5
Equipment Provision		0		2.77	2.1
<i>Equipment Provision and Quality</i>			0	2.77	4.2
Classroom Education Provision		3%		5.09	1.8
<i>Classroom Education Provision</i>			3%	5.09	1.6
Examination		8%		4.37	3.6
<i>Practical Share of Examination</i>			0	4.83	4.1
<i>Examination: Location & Supervision</i>			0	4.85	3.6
<i>Examination: Employer Expert</i>			8%	2.54	2.4

Source: Researchers' field data and previous study is findings of Cave et al. (2021)

As presented in Table 5, among other sub-processes, workplace training regulation (6.0), classroom education provision (5.0), and examination (4.3) show employers' considerable presence across these sub-processes. This result shows a significant change in the condition of employers' roles across these processes compared to previous results (4.6), (1.8), and (3.6), respectively (Caves et al., 2021). As indicated by research participants, this variation might be the result of recent policy development in the CTEVT, such as preparing a guideline for implementing

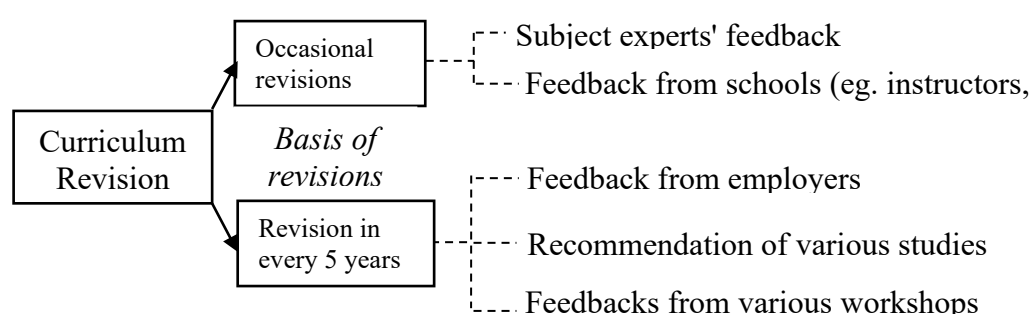
apprenticeship, the establishment of provincial offices, the provision of a school management committee in which employers are the members, and the formation of sector skill committees in selective sectors such as automobile, construction, and hospitality. However, it would be too early to determine whether these interventions have a positive result in strengthening the relationship between actors of education and employment. This study also shows that employers have fewer roles in other sub-processes, such as cost-sharing (2.2) and equipment provision (2.7), offering their limited contribution to lowering the cost of the pre-diploma programme. Shrestha (2021) has also noted that employers rarely share the expenses, and in worse cases, some employers even expect payment from the students for engaging trainees in their workplace.

Curriculum Feedback Phase

The relevance of curriculum in TVET is emphasized by several scholars (McGuinness et al., 2018; Nkwanyane et al., 2020). CTEVT has provisions for both need-based occasional and periodical revision practice. The first revisions are minor when feedback is received, and the curriculum goes for improvement. And the second is in every five years as a general cyclic process. One of the directors of CTEVT shared that *sometimes, we need to revise the curriculum immediately. It is simple editing that may not follow all the processes of DACUM, unlike the revision made every five years.* He claimed that instructors are one of the major sources of feedback; however, they sometimes receive feedback from students and subject experts in making occasional revisions. CTEVT conducts occasional research studies such as a tracer study and impact study, among others., which have been a solid basis for the second types of revision made periodically. However, employers' suggestions are often received mostly from informal channels such as occasional school visits and CTEVT, job fairs, workshops, etc. All the feedback received is utilized during the curriculum revision process every five years. Figure 6 below shows the practice of curriculum feedback in the CTEVT.

Figure 6

Curriculum Revision Practice



Source: Author's illustration based on interaction with officials at CTEVT

The study, in the curriculum feedback phase, included two sub-processes. The first sub-process ensures that the data exists to make practical revisions to the curriculum. The second sub-process examines the actors' decision-making power in revising the curriculum. The respondents weighted the curriculum feedback phase as relatively low (24%) compared to the design phase (42%) and application phase (34%).

Table 6

EELI Score and Weight in the Curriculum Feedback Phase

Name of processes and features	Weights			Index Score	
	Phase	Process	Features	Present Finding	Previous Finding
Overall Feedback Phase	24%			3.00	1.5
Information Gathering		1%		5.53	5.4
<i>Employer Surveys</i>			0	5.48	5.4
<i>Labour Force Survey</i>			1%	5.60	5.1
Update Timing		23%		3.04	1.3
<i>Update Involvement</i>			16%	2.53	1.3
<i>Legal Definition in update Involvement</i>			7%	3.63	1.3

Source: Researchers' field data and previous study is findings of Cave et al. (2021)

As presented in Table 6, the overall score (3.0) in the feedback phase shows actors of education have more decision power. However, this score significantly differs from the previous score (1.5) (Caves et al., 2021). This variation might be because of recently implemented activities such as establishing the sector skills committee, periodic updates of the curriculum that are generally made every five years, and continuous research activities. Employers have considerable engagement in the information-gathering process, with a score of 5.5 compared to involvement in curriculum updating time (3.0). In connection to this study's findings, the participants of this study in the discussion indicated that employers' engagement was just for providing information. Despite the employers' participation in the information-

gathering process, it shows that their involvement in the curriculum feedback process is significantly low (2.5).

Overall, the score 3.00, calculated in this study, is slightly higher than previous research (2.5) by Caves et al. (2021). Although the score slightly increases, the decision power is still inclined on the part of actors of the education system across all three phases that characterise Nepal's TVET system as supply-driven. A study by Neupane (2020) found a mismatch in the supply and demand of TVET programmes. Neupane's study revealed that enrolment in TVET programs is more influenced by the supply of students (number of graduates in the previous level, i.e., SEE) than the demand of the market (establishment and employment). Ramasamy (2016) argues that the supply-driven TVET approach cannot appropriately meet market needs. Ziderman (2003) pointed to the inappropriateness of competency that bypasses the local economic and social conditions as the primary cause for the supply-driven approach. In this regard, it is also essential to understand why TVET in Nepal has become less market-responsive and could not develop a good relationship between actors of education and the employment system. In the following chapter, I present why actors in Nepal could not develop a good relationship, which I explored from qualitative interviews.

The Essence of the Chapter

Actors of the education system lead the curriculum process in Nepal's TVET. Although the study findings show that the relationship between the actors of education and employment systems is improving gradually, the actors of education still hold more decision-making power in the curriculum design phase. Employers participate as invitees in the curriculum development process since the demand for the curriculum is not from them. CTEVT holds decision power in the application phase, such as in the enrollment process and examinations. Schools are solely in charge of managing classrooms and coordinating with employers to support them for students' workplace learning. CTEVT also takes responsibility for revising the curriculum and conducts regular research to gather information. In the following chapter, I explain why educational and employment actors could not develop a good relationship in Nepal.

CHAPTER V

CAUSES CONSTRAINING EDUCATION EMPLOYMENT RELATIONSHIP

In the previous chapter, I presented the relationship between actors of education and the employment system across all the phases of the TVET curriculum process in Nepal. I explained the findings that the curriculum design becomes the most important phase among all the phases of the curriculum process. However, the study measured the design phase as the weakest (2.71) among other phases: application (3.52) and feedback (3.00). Although the overall score (3.06) shows these actors are nearer to the point where they share equal power, the research participants in this study said the actors of education lead the curriculum process. Employers participate in some of the processes; however, it is at the request of actors of education. In this case, their relationship is weak despite employers' strong engagement in some sub-processes. In this chapter, based on my interaction with the actors of both systems of education and employment, particularly school principals, employers, government officials, and individual TVET practitioners, I present various reasons for the weak relationship in Nepal. More specifically, I argue that the actors resist developing a formal relationship that affects quality education. Similarly, accompanying measures are weak and lack defined roles and responsibilities between/among the actors, constraining their relationship in practice, although the policy in Nepal mandates developing a good relationship.

Less Relevant Curriculum Keeps the Employers at a Bay

In this study, employers said that they generally find skills in the TVET graduates less relevant to their needs; hence, building a good relationship could not be a priority for them. The Sanam, male and also a member of the employer's association, said *we often look for competent employees, more than the qualification we require competency in a person*. The employer was dissatisfied with the graduates who lacked the necessary skills in the employment sector. According to the employer, there was no such difference in hiring employees other than TVET graduates. The situation indicated that the employer was not interested in TVET graduates. In their study, Ridoutt et al. (2005) revealed apparent differences in the preference placed by employers on qualifications for different groups of employees. Employers seek immediate employee competency, and a qualification was considered only for a prospect in higher-level positions. Pre-diploma graduates are middle-level human

resources; in this case, it is clear that their experience and competency become more important than their qualifications to employers.

Shiva, a male TVET practitioner of the TVET development agency, argued that employers are not attracted to the graduate's qualifications. He pointed out several reasons employers are unlikely to get attracted to pre-diploma graduates. According to him, the first was the competency of the graduate, and many of the graduates do not fulfil employers' requirements. *Fresh graduates usually do not meet the expectations of employers. Employers prefer a person with work experience (who is not necessarily a TVET graduate).* The second was *that employers prefer hiring employees from their contacts rather than using a formal process.* The second was related to a benefit on the part of employers as they could avoid possible political assault from the employees and hire the workforce informally at a relatively lower price. Nepal Labour Force Survey 2019 also shows that the employment system in Nepal is mainly informal (84.6%). Furthermore, about 60% of those employed in the formal sector also accounted for having informal employment (Central Bureau of Statistics [CBS], 2019). The establishment of relationship with actors of education also becomes trivial as the TVET graduates do not necessarily become employers' needs.

Pratap, a male principal, also said that pre-diploma graduates are not attractive to employers. He said *we are running civil courses in our school, but local employers do not want to hire them. Employers are not convinced with the competency of our graduates,* he added. According to him, students studying pre-diploma in community schools are not different from students studying in the general stream. He added that *students are taught in the same infrastructure and share the same lab with students from the general stream.*

Some employers in this study also expressed concern about the curriculum's relevancy. Ajaya, a male employer, shared; *Our company has now adopted a sensor technology; however, the students I hired were unaware of it. Their technological knowledge fits the old system but has changed a lot. I had to hire a technician from India and orient my employees in the initial days.*

Ajaya said graduates lack updated skills. He added that *CTEVT has been teaching the same content for over a decade.* The CTEVT Bylaw 1993 makes employers' participation mandatory in developing and updating the curriculum. However, the situation shows a gap in the skills acquired by graduates that become

less/not relevant to employers despite their participation in the curriculum design and feedback phase.

Lalit, a male principal, indicated the lack of a relevant curriculum and their insufficient capacity to deliver competency pertinent to their students. He also stated that there is a lack of sufficient quality infrastructure and instructors for classroom learning. Ultimately, according to the principal, *it affects linkage with the employers*. Generally, TVET curricula are competency-based; in this sense, it is necessary to link graduates' skills to the world of work. Bridgeford and Aman (2017) argue that in developing a TVET curriculum, contrary to general education, employers take initiatives that keep them closely connected with actors of education. However, as already discussed, CTEVT is taking the initiative to develop the curriculum in Nepal. The CTEVT Act 1998 mandates the council to take initiatives to develop curriculums in close collaboration with employers.

In the interview, Bijaya, a male member of the employers' association, informed us that he participated in the curriculum development process, which was a ritual. He further shared that;

Once, there was an invitation letter from CTEVT to participate in developing a new curriculum. It was requested to support them by sending a representative from the association. I participated in several rounds of workshops. The other participants in the workshop were academicians and officials from the CTEVT. There were very few to contribute from my side since there were experts from academia who mostly decided the course content.

According to Bijaya, he could not argue with other participants because most were renowned academicians. *I felt uncomfortable debating with Gurus (teachers)*, he added. Fwu and Wang (2010) in their study also reported academicians had higher social status in Taiwan. The teachers were considered intellectuals in the community and were also treated as government officials. In such a situation, they are privileged to make final decisions in the process they engage in. Bijaya said he did not have much theoretical knowledge to argue with them. He added that *they were more concerned about whether the students could cover the course at an upper level*. He further mentioned *I agreed with them since I had no idea of the requirements for the upper level*.

In the other context, Madhu, a male employer from the construction industry, said that he participated in the curriculum development workshop because he could

not neglect the invitation from the government authority. He further said *they (CTEVT officials) requested it, and I participated. I must participate when a government agency sends a request letter.* According to Burger (2009), individuals obey authority and often accept the invitation because the legal frame compels them. However, in the employer's case, he was also privileged to be invited by the government authority. He participated in the process, even though it was not a demand of his occupational sector. My argument here is in line with Passini and Morselli (2010), who argue that the relationship is not only one-directional but also reciprocal, as the employer also gets individual benefits such as incentives and other possible future opportunities.

However, a female TVET practitioner, Devi, sees it as a syndicate of employers' umbrella associations. The sub-sectors in the employment system are not coordinated well. As a result, according to her, the same person from the association participates in the curriculum development process irrespective of sector and competency. Ashok, a male CTEVT officer, agrees that relevant employers sporadically participate in the curriculum development process. He further shared that *we often request employers' associations to send their representatives while developing a new curriculum. Yes, quite often, the same person takes part in the process.*

During my field visit, I found that most employers' association members were neither aware of nor informed about the existing curriculum design process. Talking with Bijaya, members of the employers' association, in this context, told that any person from their association participate although they try to send from the respective sector. He further claimed *a company does not want to send their experienced employees and stop regular production.* In this case, he said employers send human resource managers as their representatives.

Ajit, a male officer of CTEVT, viewed the situation as caused by unclear standard guidelines for employers' participation. He added that *we have a provision for their representative participation, and the criterion is that they are the employers.* According to the officer, anyone can participate from the employer's side in such a context.

Devi viewed the situation differently. According to her, associations are more political, and many elected members do not own a manufacturing industry. She further claimed;

CTEVT needs to invite employers from relevant sectors instead of employers from the umbrella association. The association represent over 130 sectoral associations. They hardly coordinate with the employers of these sub-sectors while sending representatives in the curriculum development process. I often see an office bearer participating in the curriculum process rather than a representative from a specific sector.

The situation shows a gap in relevant employers' participation in the curriculum design phase. Existing practice allows any person, even if they are not from the relevant sector, and nor does their participation become known to others. As such, the curriculum of CTEVT, as expressed by research participants, particularly employers, hardly meets the needs of the existing world of work. If the TVET curriculum cannot closely connect with the current world of work, it cannot adapt to the changing world of work and innovations (Mandviwalla et al., 2015). Consequently, the relationship becomes weak as these two systems (education and employment) might not complement each other.

The employers of sub-sectors, employees, and instructors, including principals, are generally excluded from the process. The problem of establishing a good relationship exists not only between education and employment systems but also among the sub-systems within the system (e.g., between/among government agencies, between/among employers' organizations). Whatever the involvement of employers in the curriculum designing phase is, it is confined only to the members of employers' associations at the central level. Other key stakeholders at both sub-sectors and sub-national levels remain out of the process. In such context, the evidence shows that the sectoral skills committee is a helpful mechanism for coordinating sub-sectors, identifying sector-specific occupations, preparing required skill standards, and updating the curriculum regularly (UNEVOC, 2019). However, a sectoral committee needs to be a need of employers and well-coordinated at sub-national levels.

CTEVT forms the sector skills committee in Nepal in a particular occupational sector of the business/industry. According to Bishal, a male officer of CTEVT, the National Skill Testing Board (NSTB) has so far formed committees in only three, automobile, construction, and hospitality, out of over 130 sub-sectors. The committee comprises representatives from specific sectors such as professional associations, business/industry, individual subject experts, and officials from CTEVT. Maitra (2022) assessed the role of the sector skill committee in the context of India to

increase employers' participation in TVET. However, the problem was that most committees involved in the curriculum process were from the larger business/industry sector. This means that the curriculum process tends to be geared only toward the needs of large-scale businesses/industries and is far from small and middle-scale industries that employ the most significant proportion of the youth (Young & Hordern, 2022). Most employers in Nepal are small and middle-scale businesses/industries (CBS, 2019) and get excluded from such committees.

In the interview, Devi, a female TVET practitioner, pointed out a flaw in the committee formation process. She further said,

There is a good sign that the sector skills committee has been formed in some of the sectors. This is the committee led by employers, but the bitter reality is that employers have not initiated it; instead, it is formed by CTEVT. If they (employers) begin, they will take more ownership, which is lacking.

Payne (2008) posited that skills committees are formed to develop demand-driven curricula where employers play an active role. However, it shows that the TVET in Nepal is supply-led in practice, though the policies seek (such as the CTEVT Act, 1998) to be demand-driven. In such a context, employers participate in the process to meet policy provisions and cannot perform an active role in practice.

Ramesh, a male principal of a private school, mentioned a lack of employer participation in the students' enrollment process. His school does not enrol students according to the demand of employment; instead, it attempts to fulfil the allocated number of students to run their institution. He added that *we counsel possible students during the admission period and fulfil our quota*. Nevertheless, in this concern, Priya, a female employer, said,

The school did not come to us in time. That is, industries are also running with a traditional approach. The school consults us only after they start running the programme. There is a need for human resources in the tea industry, as there are about 150 tea industries here. However, all the technical schools here run the civil engineering programme.

Priya indicated that the schools do not run the programme as per their demand. Tremblay and Le Bot (2003) focus on the primacy of the occupation for successfully implementing TVET. However, as expressed by principals, their priority is fulfilling the number in a cohort. This makes the enrollment process not important to employers. This is probably a form of Nepali culture. Neither industries nor education

institutes are proactive. For actors of education, they are doing *Sarkari Kaam* (government job) (of course not for private schools), and even the actors of employment are not innovative; instead of waiting for schools to approach them. In such a situation, the relationships become less meaningful even if they are engaged in the curriculum process.

Although employers participate in the curriculum development process, their participation becomes less productive, and thus, the curriculum becomes less relevant to the world of work. Participants viewed this less/no relevance of the curriculum as one of the pertinent issues, resulting in the weak relationship between actors in Nepal's education and employment systems.

Actors are Reluctant to Strengthen their Relationship

A weak relationship between education and employment raises another critical question: Are these actors reluctant to develop a good relationship in Nepal? Research participants in this study expressed that the actors of education and employment lack preparedness in their capacity and mindset in the Nepali socio-cultural context. The schools had other agendas than collaborating with employers. Pratap and Ramesh, principals, had similar say that sustaining the school had been a major issue since their school faced financial challenges. The primary source of income for private and community schools running pre-diploma programmes is students' tuition fees collected from parents. In this case, managing students during enrollment becomes a priority for these schools for sustaining programmes. Survival is a challenge even for schools run by the development partners' grant because, according to the principal support is gradually decreasing. The school was running the programme comfortably and in this case, the school did not have to think of a financial arrangement of its own. Bhattarai (2005) also identified that although the programmes supported by development partners become very successful, they declined when such aid was stopped. The school I visited had a long history (over half a century). The school setting was established with funds received from development partners. Since it had the quality infrastructure and enough resources to provide quality education, the graduates also became an attraction to employers. However, the school was never required to consider making the effort to establish a good relationship. Consequently, it started to degrade once development partners put the brake on their regular aid.

Developing a good relationship also does not become a felt need among employers running their business/industry informally. Bijay, a member of the

employers' association, said many employers have their traditionally run business. He said that many of his friends run their business traditionally (family business) and *would also not require modern, skilled human resources*. The employer further added, *Many businesses/industries, particularly small and medium scale, run in their close family circle. As their business/industry runs informally, they neither reach out to the school for the employee nor find the skills acquired in the school become of any use.*

The informal sector in Nepal has a more significant share (62.2%) in the national employment system (CBS, 2019). The informal sector comprises agriculture and non-agriculture (organization/business/enterprises) that are not registered by the authority. This also includes those who are employed in households. The formal sector occupies only about 37%. More specifically, informal employment recorded over 60% within the formal sectors. In this sense, the low absorbing capacity of a formal employee in the employment system is also taken into account, causing little need for collaboration with the employers. The formal sector, which shares about 40% of employment, uses modern technology and equipment and needs skilled human resources.

Nevertheless, employment in the formal sector is not necessarily formal in Nepal. International Labour Organization [ILO] (2003) defines informal employment as jobs in which persons work in risky employment situations, irrespective of the sector in which their work falls. Informal employment is precarious as it does not have access to benefits. The Nepal Labour Force Survey (2019) shows that about 60% of workers working in the formal settings had informal employment. In this sense, informal employment has become a characteristic of Nepal's employment system.

In the interview, Lila, a female principal, said that *we never covered these informal sectors with our curriculum*. According to her, employers are not convinced they could increase productivity with skilled human resources. During the field visit, some employers also followed a similar line. Strengthening the relationship with the actors of education had nothing to do with them. They instead argued that it was beneficial on the part of students. They expressed that they were supporting the TVET providers, which was not helpful on their part. Bijay, an employer, in connection to this, said,

Students get first-hand experience and certificates once we provide them with the opportunity. They would quickly get employment with the experience of working here

(in the hotel). We have our brand, and getting a chance to intern here adds value to their career.

However, Lila disagreed with the employers and argued that establishing a good relationship with employers is a supportive process. The principal remembered how helpful it was to provide opportunities for experiential learning to their students in occasional events organized by hotels in the city. Because of the established support mechanism between school and employers, students can work and gain practical experience in the workplace. In contrast, employers benefited as their work was done at a low cost. The other principal, Ramesh, said the employers, however, *think they have paid tax, and that's all*. According to him, employers also have a responsibility towards society. He added that *the more they contribute to society, the more they will create their brand*. According to him, employers see their benefit more and contribute less to their social responsibility.

Pratap, a male principal, said that employers do not take an interest in collaborating with the school nor demand skilled human resources. He said *employers would like to have cheap production rather than quality production*. He also said: *Once we planned for visiting industries to inform our programme to the employers located nearby our school area. Occasionally, we visited industries from Itahari to Biratnagar. Nevertheless, many employers did not even like to meet and listen to us. Unfortunately, we could not enter inside the gate.*

According to Pratap, most of the workers working in the company were from a neighbouring country, mainly from India, and are hired at a low cost. They employ employees with contractors who usually collect the workforce. Normally, they fulfil their requirement from different informal sources. In this context, Bishnu, a male TVET practitioner, said,

Employers usually do not want to groom their employees because they need product rather than personal development. They seek results immediately; in this case, they are not interested in participating and helping TVET students for OJT/Internship, which does not give them an immediate outcome.

In line with this, Madhu, a male employer, explained that they usually depend on the contractors who supply human resources according to their needs.

We usually hire a technician from a neighbouring country, and it is a contractor (डेकेदार/Thekedaar) who takes the responsibility for managing other labour force in the

company. Of course, we have a supervisor to monitor and evaluate the work performance. The contractor holds a license to employ the labour force and employs a supervisor (मेट/ Met) to mobilize the labour force and complete the task.

The situation reveals that the education and employment systems are incompatible with Nepal's TVET system. Furthermore, it also shows their resistance to formalizing the mechanism. Employers depend on contractors for an easy human resource supply procedure. They do not see a benefit in engaging in the skill formation process as contractors are responsible for accomplishing the task. The research participants, particularly employers, said there is a lack of motivation for them to develop human resources.

All the employers in the interview shared that the government often promises tax exemptions for those employers who contribute to TVET, but there is nothing in practice. Ajay, an employer, said,

It would be good if employers got some tax exemptions. The exemption can be made in equipment to support schools or reduce the tax on the industry based on their contribution to the TVET. However, such motivation is not provided to the employers.

However, Shiva, a male TVET practitioner, viewed it differently. According to the practitioner,

A rebate is not always an economic benefit. It can be a recognition of the employers' contribution in any form. A provision for awarding employers based on their contribution could encourage employers to participate in the lack of a TVET system.

Principal Lila also expressed a positive view on providing rebates for employers; however, it was not a direct financial benefit. The principal argued that *employers are benefit-oriented and will be involved if they know it is beneficial.* According to her, *employers seek immediate benefits, and their engagement with the education system may not benefit immediately.* In contrast, in their study conducted in Nepal, Bolli et al. (2020) calculated the difference between employers' investments and the return they get in the long run. The study explored the benefits that employers get when they participate in the TVET process. This shows employers are unaware of the benefits they might get and have not realized that their engagement in the skill formation process ultimately benefits them in the long run.

According to Shiva, reducing taxes might not be logical in Nepal as the nation needs more revenue to continue its development. The rebate could be recognized or used as other kinds of support to build their institutional image. As he further added, *We need to highlight and support them to improve their image in society. Since they are motivated by profit actors in education, they cannot assure the employers that they benefit from better linkage.*

I also found many employers unaware of the programmes offered in nearby schools. Some employers remembered how their production was affected during COVID-19 by the lack of available human resources. During the pandemic, most employees they had hired from India did not return for long. They had to stop production in their industry, although the graduates were available in the local market. According to the employer, there was a risk of hiring someone with less/no experience in running the machine. Sanam added that *no company would prefer to hand over the costly machine to an inexperienced person.*

Participants, particularly school principals, expressed their different views on why employers do not like to hire TVET graduates available in their locality. Pratap, a male principal, argued that employers have less trust in graduates. According to him, TVET is also associated with low social status in Nepali society. In the interview, the principal said *TVET has been an education for those who are academically weak and score low in the examinations. People suggest joining the TVET programme if a student fails academically.* In a similar line, a male principal of a private school, Ramesh, added, *The design of the TVET system has a flaw. There is a provision to enrol failing students who cannot perform well in general education. This has made it seem as if education is only for those who are weak academically.*

According to Ramesh, it also comes under low priority among employers when it has less social value. Billett (2014) posits that the relatively low standing of TVET impacts employers' willingness to engage with actors in the education system. During the field visit, I observed differences in employers' relationships with the TVET graduates compared to graduates from a general stream. In my request to meet with the employees, the employer called the graduate from both the streams, general and technical; however, the employer addressed with 'sir' for the graduate from a general stream and 'bhai' brother for the TVET graduate, although they have similar

level qualifications. This shows the lesser social value of TVET compared to the lesser social value of TVET than general education in Nepali society.

Employers' Less Active Roles Weakens the Relationship

The national policies in Nepal aim to encourage collaboration between the education and employment systems. For example, the Act for establishing CTEVT 1989 recognizes employers as one of the key stakeholders. Similarly, the Labour Act 2017 also aims for employers to engage in a skill formation system. Despite these policies, strong collaboration could not develop between the actors in practice. An employer mentioned that their roles are unclear despite the policies they provide for their engagement. Bijaya, an employer who was also a member of the employer's association, urged that,

The skills development process of youth is equally important to employers since it determines what types of employees they are getting in the future. However, the government has all control. It starts and decides about everything; however, it expects us to support them.

In this line, Bishnu, a TVET practitioner, also agreed with the employers and said,

CTEVT claims and feels proud that every committee has representatives from the private sector, but what is their role? Nominating them to the council and committee is essential, but how active they are is more important. How do they participate? How well are their roles defined?

Making a situation for proactive and well-defined roles for TVET providers and employers is necessary (Taylor, 2006). However, the interviews reveal that the CTEVT defines such roles, and as such, employers take less ownership. This study found employers have fewer roles than education actors in the curriculum process.

There was resistance among education actors in sharing roles with employers in several important curriculum processes, such as during students' enrolment, instructor selection, and the final evaluation process. The actors of education, particularly officers in CTEVT and school principals, objected to engaging employers in these processes. Enrolment of the students is a centrally controlled process in all types of schools under CTEVT. As described in the previous chapter (Chapter IV), CTEVT opens admission calls from a central office and takes students' applications from the respective schools. The students who pass the entrance exam enroll in the respective school based on the school's capacity for a specific programme. CTEVT

also conducts summative exams at the national level annually. Although the CTVEET curriculum emphasizes practical-based assessment and limits the theoretical aspect, in practice, the final evaluation, which is based on the academic part, becomes a key for assessment. Ashok, an officer of CTEVT, said *schools send practical marks, and students need to pass the final written test of the examination board*. The officer further said that students need to complete all the practical work and pass the final examinations to be graduated. The examination board under CTEVT prepares the questions, assigning subject experts, and these experts (generally instructors) evaluate the students' tests. The final grades are provided, aggregating both practical and theoretical marks.

Employers do not participate in the theoretical examination. According to Ajit, the other officer of CTEVT, *it would be impractical to engage the employer because it needs subjective and theoretical knowledge, which employers may lack*. Employers assess and provide marks to individual students only on their learning in the workplace. In this context, Lila, principal of the school, said *in consultation with our coordinator, employers assess students according to their performance in workplace learning*. However, assessments made by employers share only about 20% (300 out of 1500). In the rest of the 80% evaluation, employers are not involved.

Considering the information provided by employers, marks given to students' workplace learning are also not scientific. In the interaction, Ajaya said they provided the marks using their rationale. They are not provided with any standards nor are they oriented about them. They usually check attendance sheets, where students normally write down their daily duties. The employer informed me, *Students come with a letter from the school for their OJT. We check their attendance and work based on their daily log sheet and send the marks in the enclosure to the schools. It's an entirely subjective evaluation based on our observation and their attendance sheet*.

Wudneh et al. (2022) also found that TVET providers limited the employers' role in implementing curricula such as implementation and evaluation. Such exclusion was found to impede the relationship between them. In the interaction, a few participants, particularly principals and employers, shared their experiences of good relations between the two institutions. An employer, Ajaya, further said, *I receive trainee students as their regular course completion. However, during festive times, we get overbooked. It has been very easy to request the school principal send*

more students to organise the events. Students receive pocket money, and I also do my work.

According to him, such needs are occasional, and these students were not trainees but were studying in their first or second years. Similarly, a school principal, Lila shared her experience that employers sometimes come with urgent employee needs. She also said that the school had supported the employers in fulfilling their immediate needs in such cases. She remembered an incident,

Once, employers (people from contractor associations) came into our school and wanted to hire all the students of the second cohort for a short period. We were thinking of sending a few of them, but in the end, considering their need, we decided to send them all and considered it an OJT opportunity.

According to Shiva, a TVET practitioner, *such support builds a good rapport between employers and the school.* Nevertheless, he argued that such practices are rare and only practised by some private schools and a few constituent schools. According to him, other schools concentrated on delivering the classes. In such a situation, actors of education hardly interact with actors of the employment system.

The participants in this study also said the roles of the three levels of government governing TVET lack clarity, which has also been a roadblock for developing a good relationship. The Local Government Operation Act (2017) provides the local government with a mandate for its overall management, particularly for secondary-level formal TVET programmes (NLC, 2017). Nevertheless, in the interaction with the research participants, particularly school principals at the local level, they shared their confusing situation. Pratap, a principal, said that the school committee requested support from the local government, but they only received promises. According to the principal, the school could not manage enough funds for teachers or equip the lab for practical work. The principal said that without government support, the priority becomes how to sustain costly programs and the agenda, such as developing relationships with *employers, and the quality teaching-learning process becomes less of a priority.*

Although there is a lack of clear federal governing policy for TVET, the existing situation demonstrates the collaboration is more than just having a role. The evidence in the curriculum development process shows that the relationship is impeded despite having assigned roles to the employer. In this case, the situation might continue even after an awaited TVET act in the federal context is endorsed.

Low Quality Teaching Learning Hampers the Relationship

A quality TVET is directly related to achieving the student's learning outcomes that fulfil the general expectations of both individuals and society. A principal of a constituent school also emphasized quality teaching-learning arrangements. Lila said *that if a school provides quality education, it also creates a positive image for the school*. According to her, such an image is a kind of brand that society, specifically employers, trusts. She further added, *Compared to other schools, our students easily get a job in the market. You can find our graduates across Nepal. They have led many industries, and some have also become entrepreneurs. We have a well-equipped workshop, and employers are impressed when they visit our school.*

Renaud (2009) argues that infrastructure is one indicator that ensures the quality of TVET; however, several other indicators, such as teaching-learning and student achievement, might enhance the quality of TVET. Employers also said that quality work matters to them. In this context, Ajaya further explained, *Our area has numerous technical schools; however, I trust only a few of them. Last time, there were two students for the internship here. I hired both of them. If I need human resources, I contact the same schools because they are different from others.*

From the explanation, it can be said that quality is associated with the school's image. However, developing a positive image among employers is an issue since most schools have insufficient infrastructure.

The participants in this study raised their concern about a quality teaching-learning arrangement, which has also been perceived as one of the causes of the weak relationship between actors of education and employment. The research participants pointed out various constraints in providing a quality TVET. In this context, Devi, a TVET practitioner, said *schools, particularly community schools, lack the basic infrastructure required for TVET. Students study in the same infrastructure as students from general stream study. There is no additional infrastructure in most of the schools.*

Considering the participants' views, TVET infrastructure usually can be taken at two levels. The first is basic infrastructure, including building, and the second is a well-equipped laboratory/workshop for learning. The employers also pointed out the lack of quality workshops in the schools. Sanam, an employer, shared his experience,

Once, I visited a technical school near our company. They run an automobile programme but do not have a workshop to practice. The first cohort was already in the second year but without practical work in the workshop. I was there to explore possible collaboration but returned without telling the principal my interest.

Sharma (2021) argues that quality infrastructure is one of the indicators of quality learning—inadequate infrastructure results in poor learning, which affects students' performance. The participants shared that a lack of funds was one of the pertinent causes of the situation. In this context, Pratap, a principal of the community school, shared,

It's been a long time since we expected funds from CTEVT, as they said they would provide some funds to establish a lab in our school. Unfortunately, it's been over a year; one cohort is already in their final examination, and we received the funds and could not establish a lab on our own.

It shows the policy practice gap in CTEVT. One of the essential criteria set by CTEVT Regulations (1994) is that it ensures the availability of infrastructure before providing permission (affiliation) for running the programme. A new institution is approved to run the programme after carefully inspecting the applicant institution's infrastructure. The principal said they would consider advancing a lab after running the program.

The relationship between actors of education and employment is also taken as an alternative way of providing students with an opportunity for practical work in the real workplace setting. In this case, their relationship is also a commitment to shared responsibilities among its stakeholders for providing quality TVET (Poulsen & Eberhardt, 2016). It includes managing both classroom and workplace learning and arranging the cost collectively.

However, in this study, I found a lack of shared responsibilities between actors of education and actors of employment. The arrangement for the practical teaching-learning environment made by schools was concentrated on theoretical courses. Devi, a TVET practitioner, said,

Instructors concentrated on classroom delivery. They provide handouts to the students so they can get through the exam easily. The practical aspect is less emphasized. For them, a hen lays an egg on the whiteboard, hatches and grows up there.

In the pre-diploma curriculum, over 30% of the total learning period is allocated for learning in the workplace setting, either through On the Job Training (OJT) or Internships. The school normally takes initiation for students' placement for workplace learning. As shared by a principal, Pratap, approaching employers becomes a Herculean task for schools in a rural setting because there is a lack of industrial establishment. In the interview, other principals also informed that they contact employers usually based on their relationships and requests to place their students. They also shared that there are different employers in receiving trainee students. Ramesh categorized employers into three levels based on providing incentives to trainee students. According to him, the first type offers minimum incentives to the trainee students; the second type does not provide any incentive. It supports providing learning space, and the third charge is heavy to the trainee students.

Lalit, a principal, also shared that not all employers are ready to receive trainee students and provide relevant workplaces. The principal also informed that he often received complaints from students that students were not provided the opportunity to engage in the relevant work. Tremblay and Le Bot (2003) found that Germany's TVET providers and employers were governed by duality, the primacy of occupation, and consensus. The duality is shared roles and responsibilities; the preparation of skills standards was based on the primacy of the field, and the consensus is an agreement in implementing it collectively. Reflecting on the interviews conducted with both education and employment actors, such shared responsibilities are found to be mainly missing in the practices in the case of Nepal. The school supplies the students to the workplace. It is based neither on the importance of occupation nor on developed consensus on the part of student learning in the workplace. In such a situation, the outcome is a poor teaching-learning arrangement, which also affects the relationship as schools fail to prepare competent human resources, and employers lose their trust in technical schools.

During the interview with the research participants, I also learned that classroom and workplace learning lack a quality instructor to facilitate student learning. The lack of quality instructors in TVET has been a crucial issue in Nepal. Pratap, a principal, shared that their school usually hires instructors on a contract basis. More importantly, most of these instructors are fresh graduates who lack industrial and teaching experience. In this context, Ramesh, the principal of a private school, shared,

The challenge we are facing is the retention of the instructors. First, it is difficult to find subject-specific competent human resources; second, there is inconsistency. Usually, they are a fresh graduate and easily quit their job if they get better opportunities.

The other principals, Lalit, Lila, and Pratap, also shared the issues related to the instructors. *We are paying higher salaries to the instructors compared to general education teachers. However, we often do not get teachers in specific subjects.* According to Lalit, teachers have limited earnings in the rural setting compared to city areas, where they could also earn through facilitating exam preparation classes for students and part-time jobs in other colleges.

Choy and Haukka (2009) posit that engagement with employers is equally crucial to teachers as they also get an opportunity to update their knowledge in their specific area. I found no cases in this study where instructors were from the industries. The experienced employees of the sector occasionally visited some schools, mainly in the urban setting. In this connection, Lila, a principal of a constituent school, shared that most *master crafts are informally groomed and lack formal qualifications. They hesitate to come to school. We also could not recruit them as instructors as there are qualification criteria for instructors.*

The TVET practitioner Shiva, however, argued that even if the craft person is less educated, they could be helpful for practical learning. During my field visit in this study, a few principals, particularly from a constituent and the private schools, reported they invited experienced employees to share their experiences with the students as guests. According to the Shiva, *the majority, particularly community schools, lack the practice of engaging employers from the business/industry.*

A principal, Ramesh, also shared that experienced craft people are not quickly ready to transfer knowledge to the learners. Chuang et al. (2013) argue that despite the great potential for learning from professional craft persons, it is essential to note that skill transfer, particularly from senior to junior, is subject to their willingness to share. The experienced craft person can be reluctant to transfer their knowledge for fear of losing their present status or even worry about their displacement by whom they coach (Billett, 1995). However, the employers disagreed and said it is the students who do not have an aptitude for learning. Sanam, an employer, added,

Students do not want to dirt their hands. They just come into the workplace as observers and fear soil and water. If they are assigned a task, they seek assistance so they do not need to dirt their shirt.

In their study, Lopez and Phillips (2019) also found the attraction of the youth towards a white collar job and foreign migration instead of continuing traditional family agricultural occupations. Nevertheless, school principals had contrasting experiences to share. Lalit, a principal, shared in the interview that they received a complaint from the students that the chef placed them in the sink instead of the kitchen. The principal said *the chef intentionally did not engage students in the cooking process*. He further said,

I met the chef at one of the events and interacted with students learning. Interestingly, he (the Chef) said he started to learn from the sink and had become a chef only after several years of hardship. He also wanted to see our students in the sink. He was proud of his competency and wanted to show students it was quickly not gained.

In this context, employer Ajaya agreed that most of the senior employees in his hotel were groomed informally and had no formal qualifications. The employers added that *they hesitate to transfer skills since they do not have academic qualifications and may fear being replaced by qualified ones*. Kankaraš (2021) also found restrictive environment learning with the employer. He found low demand for skill development, and those learning in the workplace were not motivated and not provided the necessary direction in the work. This unwillingness to transfer knowledge affects students' learning and reduces employers' active engagement in the curriculum implementation.

Along with a lack of quality human resources for guiding students, I also found a lack of collaboration between actors of education and employment for arranging quality infrastructure. In this context, Bishal, an officer of CTEVT, said the current practice of bearing the cost of the infrastructure in TVET is not viable. He added that *we need to go for a sustainable approach and that there is no alternative to making it viable in a local context*. The officer further said considerable money is required in order to establish a quality school infrastructure. He added, *The role of the employers is to provide an alternative source of financing for TVET to ensure quality education with the required infrastructure. This would reduce the burden on the parents and support the local government as it is now responsible for secondary-level TVET programmes.*

During the study, the researcher also found some employers who had supported establishing a lab in the school. Sanam, an employer, also shared that his company had provided a vehicle to the school for students' practical work. Nevertheless, this support was from individual employers. Young and Hordern (2014) emphasize the role of the association instead of that of individual employers. Supporting infrastructure with a collective contribution through their association organization is more practical than by individual employers. However, coordination among individual employers and their associations was not noted during the interaction made with employers in this study.

Less Effective Accompanying Measures Constrain the Relationship

As I also explain in Chapter II, actors of education and employment interface in several ways in the curriculum process. The regular interaction between these actors also relates to how closely or loosely they are connected. Oleynikova (2009) says some employers, normally large-scale industries, are more outspoken and often engage with the TVET providers; however, many are unwilling to participate and remain focused on their internal processes. If close cooperation persists, employers become more willing to engage with TVET providers (Musset & Kurekova, 2018). My study participants pointed out several accompanying measures that have become constraints in developing a good relationship in their context. I present them in the following subsections.

Mechanism of Informal Communication Prevails

In this study, employers informed that there is a lack of a formal mechanism for formal communication where they could put their say regularly with TVET providers. Ajaya, an employer, shared,

I often send messages to our Viber group of the sector skills committee. A few of the members responded to it. I created the group when we were together in the meeting. However, I am not connected to the school's instructors. I sometimes telephone the school's principal, and I doubt the message goes to the instructors since the same issue repeats every year when students come for OJT.

The principals said they have a school management committee where employers could share their issues and provide feedback. Nevertheless, Bishnu, a TVET practitioner, claimed that such committees are active only in selective constituent schools of CTEVT. Other larger numbers of community schools lack such effective mechanisms.

In line with TVET practitioners, school principals also shared that informal communication is in general practice instead of formal communication. Ramesh, a principal of a private institution affiliated with CTEVT, shared that *I offer employers a cup of tea mostly when we meet. Last time, I took them on a trip, and we had a site visit together.* According to the principal, such regular engagement with employers supports them in placing their students during their workplace learning. The principal also said employers sometimes hire students during school visits. Lila, principal of a constituent school, further shared,

We have prepared a list of the hotels and restaurants where we can send our students for workplace learning. We often request them to place our students. I slightly revised the list of employers after I became a principal at this institution. Our acquaintance with the employers also matters, as is where we send our students.

The principal indicated that she did not like sending students with whom she was unfamiliar. Likewise, the employers agreed that they usually receive students based on their contact with the principals; however, some also informed of receiving request letters. Madhu, an employer, emphasized that it is challenging to trust everyone. He said,

Once, I placed students from a district other than this for an internship. The students were very active in the initial days, but they started assaulting other employees. I informed the respective schools about it; however, nobody counselled them.

According to the employer, he received only the students from the school he was familiar with after the incident. In this context, Shiva, a TVET practitioner, argues that personal relationships have been a common practice to get work done in Nepal; however, according to him, such mechanisms should not be the basis of relationships in a public organization. Subedi (2014) also argues the prevalence of *Afno Manche, a person near me* (p. 56). However, such a personalized connection affects the formalized mechanism. More specifically, the informal mechanism only supports the relationship when it supports establishing a formal relationship. A study by Haaland (2010) also found that casual relationships in the standard setting affected formal communication channels. This study also found informal communication more prevalent than formal communication between TVET providers and employers. Both principals and employers felt comfortable collaborating with familiar and known people. In this regard, the participation becomes more exclusive and less organized as

it runs informally. Their relationship becomes unpredictable with multiple informal connections such as kinships, business partners, and political affinity.

Political affinity also works as an invisible connection among social institutions in Nepal. The participants in the interview agreed that political relations matter in their relationships. In this context, Ramesh, a principal from a private school, mentioned that he could forcefully convince employers to place their students for workplace learning if they are connected with the same political party. In this context, Ramesh further added,

Some employers (Dai and Bhai meaning seniors and juniors) do not deny our request. This year, I requested a Bhai who runs a restaurant in the city. He was demanding four students, but I sent six. He, however, did not complain.

Poudyal (2009) also found that political nearness determines the relationship between the people, especially at the organizational level. The author found a strong affinity among the people of the same political party in the hope of personal benefit. The principal of the constituent school also shared his experience. According to Lila, she had to revisit the list of employers after being appointed the school's principal. According to the principal,

The former principal had a political tag and built relationships with employers accordingly. Once I was appointed here, I was surprised those employers were no longer interested in collaborating with the school. I had to revisit the employers' list of where our students could go for workplace learning.

On this concern, the employers in the interviews also agreed that political affinity matters in establishing a relationship with the school. An employer from a manufacturing company expressed her fear of possible political-related strikes from the students. Priya shared,

I feel safer collaborating with the principal who has the same political affinity. It reduces the risk of the trainee students from their possible political stunt. Although I have not faced such issues, it is better to be careful. I always ensure that the students are not involved in any student union.

In this scenario, it is clear that the relationship between TVET providers and employers depends more on personal acquaintance, more specifically, based on political affiliation. According to Subedi (2014), in such a situation, one feels obliged to do business that often contradicts the legal provision of the organization. These

practices weaken the formal system and make a favour for an individual instead of an institution. As a result, formal interaction becomes insignificant in the relationship.

Collective Work Gets Less Priority

The technical division of CTEVT regularly monitors and evaluates the implementing agencies. However, employers are not involved in the regular monitoring and evaluation process. Ajit, an officer of CTEVT, said that the internal process and technical division regularly monitored the institutions in coordination with the provincial offices of CTEVT. The officer further said that the implemented programmes are run in the *institutions governed by CTEVT acts. CTEVT has an internal mechanism under the Technical Division for assessing it. The division regularly monitors and provides feedback to the schools.*

In the interaction, employers mentioned that they were not invited to such a school monitoring process. According to Madhu, *sometimes the school invites us, but it is for attending some programmes.* A study by Siddiky and Uh (2020) conducted in Bangladesh also found a lack of joint work between TVET providers and employers in exploring the market's needs. CTEVT also lacks a provision to include employers during the monitoring process; hence, only officers are in charge. CTEVT itself is the programme's implementor, and its internal evaluation mechanism, in this sense, could also be biased.

Weak Labour Market Information System

Under the research division, CTEVT conducts regular research and publishes an annual report with information on the number of students enrolled and graduated students. Ashok, an officer from the research division, informed us that the CTEVT publishes its annual report with detailed information on institutions, their capacity for enrollment, and graduation records. He also explained that the constituent schools sometimes conduct a tracer study to assess the employment situation of the graduate in a particular programme. However, these studies are undertaken occasionally, and the approved budget and priority of annual planning also determine the continuation of the study. In the case of TECS and privately run schools, no such evidence was found that they had conducted any such study.

Pratap, a principal from a rural setting running a civil engineering programme, said,

Usually, students from our locality used to go to other districts for technical education, and we thought it would be good to begin here. We started it with this

assumption but were wrong. We do not know what types of jobs are required in our area. But it is sure that we are not meeting them.

The principal added *that we could have mapped the need in the local market regularly but did not.* Temberly and Le bot (2003) assessed the German apprenticeship system and found TVET was established based on occupational needs. For this, the Federal Institute for Vocational Training (BIBB) researches the programme's feasibility in coordinating employers and TVET providers.

The Research Division in CTEVT primarily conducts such studies. Bishal, an officer of CTEVT, informed me that conducting a feasibility study is a practice before starting any programme in its affiliated school. Ismail and Hassan (2013) assessed Malaysia's TVET system and found a weak mechanism for gathering labour market information to make the curriculum relevant. They further found the TVET system was supply-driven, and TVET providers, in most cases, were not making collaboration for it. TVET in Nepal is also supply-driven, and it is evident that information on the labour market becomes less important to its actors as they are not closely linked to each other.

Insufficient Coordination at the Local Level for Governing TVET Schools

There are different narratives on the role of government in managing TVET. A government can work as a catalyst to interface employers with the education system (Hall & Soskice, 2001). However, the interaction with a manufacturing employer shared that the government perceives them as a laboratory. Sanam, an employer, expressed,

We are directly linked with the local government for day-to-day activities. People's representatives at the local level have requested that we employ the local people. But the skills of the local people are not what we need in the company. We hire from other districts. If the government arranges to prepare such human resources locally, that would be good.

On the contrary, in this context, Lila, the principal of a constituent school of CTEVT, shared,

The government bids a tender. Last year, our school owned such a bidding of running classes for students from underprivileged communities. After receiving the funds, I met with the representatives about the enrollment of students and requested support in the enrollment. However, they recommended only three students, and I had to

approach students from other districts. There are 40 students from 22 districts. This has just become fulfilling the class.

Lalit, a community school principal, also shared a similar experience in that they also collected students from various geographical zones. According to the principal,

The local government's role could have been important during the enrollment of the students. Suppose the local government makes a conducive environment for TVET, such as making a plan for skill development, assessment of the market, and motivation to the employers to attract students to the schools. In that case, if we could make such things happen, we would not struggle during enrollment.

Busemeyer and Trampusch (2011) argue that the degree of government involvement in TVET also has a positive correlation with TVET management. The government's role in fund management, standardization of certificates, and mainstreaming TVET in the national education system is crucial. At the same time, employers are the key partners who engage across all the curriculum processes. However, in the context of Nepal, as explained in the above sub-sections, the government possesses power across the process instead of being a facilitator, and the employer becomes a mere participant in the process.

Bureaucratic Hurdles Weaken the Relationship

The bureaucratic process is a formal and permanent system that binds the social actors for their activities. An employer, Bijaya, said *some employers who run their business informally do not want to formalize their business because of a tiresome bureaucratic process*. He further shared that *some friends hesitate to be open and go for the formal process because of fear of being given an unnecessary load*. In this case, collaborating with schools also becomes less of a priority to such employers.

A centralized bureaucratic process was also an issue for principals in collaborating with employers. In many cases, school principals expressed the limitation of power to run day-to-day activities. Principals in the interaction claimed they had less autonomy to decide on the daily process. Lila, a principal, further shared that,

I have always been aware that employers' participation in the schools benefits us in many ways. Last time, I requested an employer for a guest lecturer in the class, but the account section refused to pay remuneration to the guest who had spent a lot of

time preparing classroom delivery. There is no such flexibility in deciding on the immediate programme and working with the employers. We need to wait for a fiscal year and request it. Such a lengthy bureaucratic process discourages taking any initiative.

The bureaucratic hurdles were also shared by officers who were in the central-level governments. Askok, an officer of CTEVT, shared, *Suppose the budget is allocated for ten curricula approved in the Ashad/Shrawan (June/July), and our new session starts in Ashoj/Kartik (September/October). This is not enough time to assess before designing the curriculum, and one has to go for the fast track. Last year, we received a request from a government agency to prepare the curriculum immediately. This is impractical and has to compromise broader discussion with employers.*

The experience shared by my research participants shows that some bureaucratic hurdles, such as centralized systems, lengthy processes, etc., also influence the relationship as they could not get the freedom to plan practically.

Employers' Engagement in Schools is Very Low

According to the principals, besides regular academic activities, the school also organizes extracurricular activities. These activities are considered to help students explore their competency and show others. In this study, I found a few schools that had occasionally been organizing a job fair. It was intended to bridge students' careers with the world of work and support them in seeking jobs matching their skills and interests. According to Beam (2016), a job fair has multiple benefits for employers and students. Employers get the desired workforce quickly while students learn about their employment prospects.

Regarding the job fair, Lila, the principal of a constituent school, informed me that many employers had visited their school and been informed about the programmes. *About 20 students were hired on the spot*, she added. Despite its several benefits, school principals said they cannot organize it regularly. According to her, there are limited employers in the locality and the students.

Oleynikova (2009) says some employers, usually large-scale industries, are more outspoken and often engage with the TVET providers; however, many are unwilling to participate and remain focused on their internal processes. If close cooperation persists, the employers become more willing to engage with TVET providers. Ramesh, a principal from a private school, claimed that employers *do not*

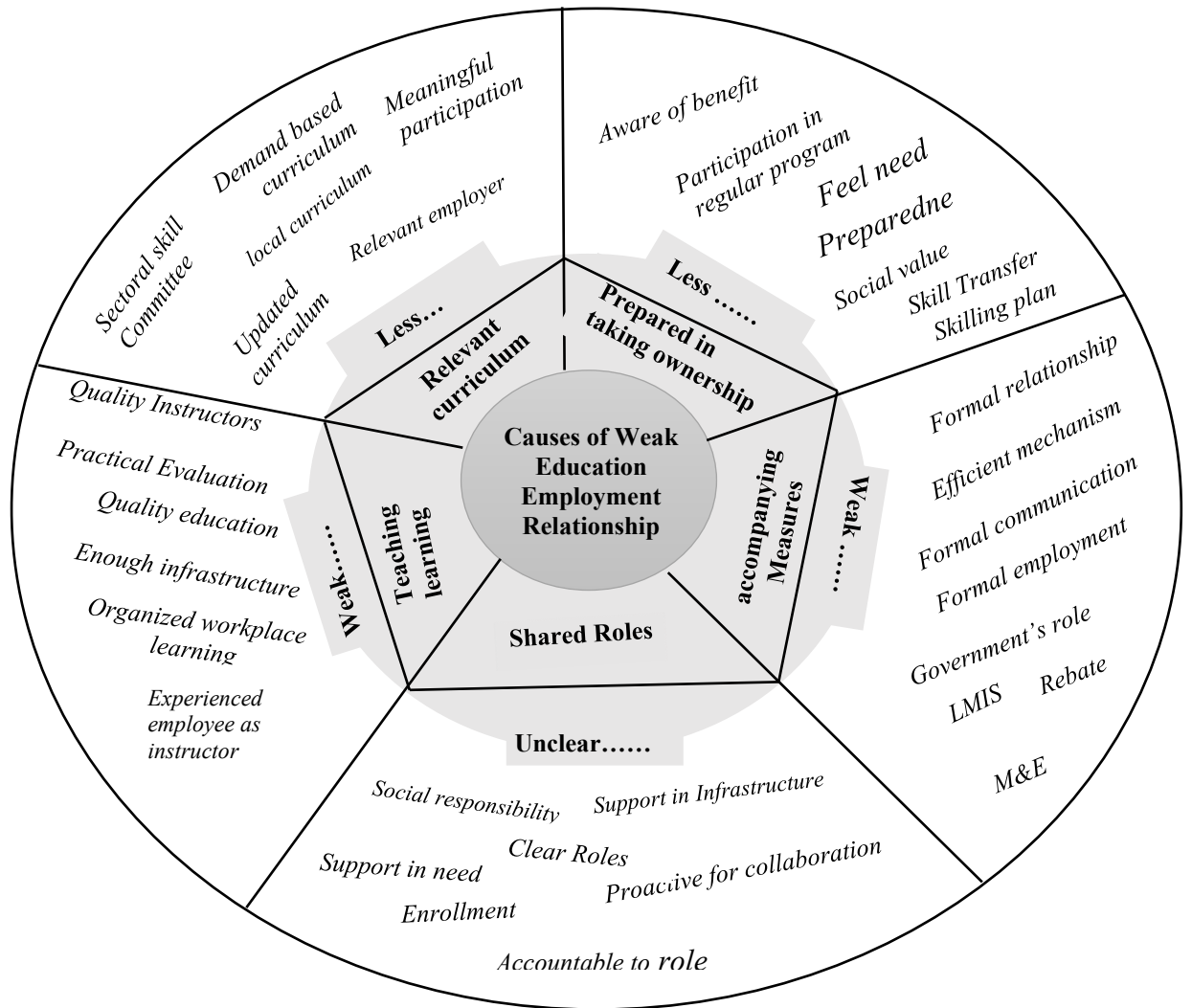
come themselves; we have to bring them. He further shared *that we had arranged our vehicle to bring industry people to the college.* According to the principal, employers feel respected and are delighted when they provide service. Lila, a principal of a constituent school, also shared experiences in a similar line, *Employers hardly appear with their interest in the activities of the school. We regularly incentivize them, although we do not always give them remuneration for attending a meeting. We also organize some programmes (such as workshops and seminars) in their hotels. We also recommend our guests there.*

The situation shows several underlying processes that support for developing a good relationship between the actors. The weak relation is neither in the favour of employers as they are relying on informal sources, which is not viable, nor is it in favour of actors of education as their product has not been relevant to the existing employment system. Hence, weak relationship continues in Nepal unless the actors of education and employment systems take TVET as a common ground to achieve their own goals and help each other to achieve their goals.

The Essence of the Chapter

In this chapter, I explained the relationship between actors of education and employment and also described several issues that directly and indirectly constrain development. Employers participate in curriculum development as passive participants and are often ruled by government officials and academicians. In the application phase, a shared responsibility is lacking, for making classroom and workplace learning more effective. Finally, in the feedback phase, they witness the process. The processes are not simply a cycle of supply and demand chain; they are also social processes where one supports the other to meet their institutional goals. In Figure 7 below, I illustrate the major themes I explored while interviewing my research participant.

Figure 7
Illustration of Explored Themes



In the following chapter, I present the result of the factor analysis and explain the premises for strengthening the relationship between actors of education and employment in Nepal.

CHAPTER VI

PREMISES OF A GOOD RELATIONSHIP BETWEEN EDUCATION EMPLOYMENT IN NEPAL

In the previous chapter, I presented the reasons for Nepal's weak education employment relationship. In this chapter, I present the explored components for a good relationship based on a survey conducted with 616 respondents (302 school principals and 314 employers). Out of 36 themes from qualitative analysis in the previous chapter, 17 items under five components were extracted using Principal Component Analysis (PCA). I nomenclature these components as a) Defined employer's roles and responsibilities, b) Ensured accompanying measures, c) Labour market responsive curriculum, d) Readiness of the actors for common ownership, and v) Quality teaching-learning arrangements. The results of PCA are explained in the following sub-sections.

Characteristics of Respondents: Gender, School Types and Sectors

The survey was administered with a sample drawn from a total number of schools providing pre-diploma programmes under CTEVT schools, in its annex and affiliated, and the employers facilitating students during workplace learning. The frequency and percentage of attributes of principal (gender, type of school, and sector) are presented in Annexure IV.

Most of the sampled school principals were male (n=285, 94%), and the rest were female (n=17, 6%). This indicates that female participation in the TVET sector is still lower than that of males. Furthermore, this data also mirrored the national status of female teachers (11.0% at the secondary level in Nepal (CEHRD, 2022)). Similarly, this study shows a majority of the principals were from TECS (n=161, 53.3%) followed by private (n=116, 38.4%) and constituent (n=22, 7.3%) schools. The least respondents (n=3, 1%) were from schools partnering with CTEVT. The majority of the principals (n=165, 54.6%) who participated in this study said that their schools were running engineering-related programmes, followed by agriculture (n=102, 33.8%), hospitality (n=18, 6.0%), and others (n=17, 5.6%). The other includes sectors such as forestry, management and humanities.

A gender difference was also found among the employers in this study. The number of male employers (n=279, 88.9%) was significantly higher than female employers (n=35, 11.1%). This data also indicated the share of female employers

(25.6%) who provide regular employment in Nepal (CBS, 2019). Similarly, most employers (n=151, 48.1%) owned a single private company/firm, followed by employers from government sectors. Employers running their company/firm in private partnership were also noticeable (n=55, 17.5%) compared to a number of employers (n=11, 3.5%) in public-private partnerships. Similarly, this study found that employers from the engineering sector make up a considerable number (n=144, 45.9%), followed by those from agriculture (n=78, 24.8%). The economic survey 2020 also shows the highest number of manufacturing industries (37.0%). This result also indicates the selection of employers in this study who provided workplace learning to the students. The number of engineering programs is the highest among others under CTEVT. Finally, the number of employers from tourism and hospitality (n=56, 17.8%) was slightly higher than the number of employers who informed that they were engaged in sectors other than these three (n=36, 11.5%).

Premises of a Good Education Employment Relationship

The third research question of this study was to explore the drivers of a good relationship between actors of education and employment. To meet the objective, I used Exploratory Factor Analysis (EFA), a multivariate statistical method that helps to reduce factors and explain covariance among observed variables (Watkins, 2018). The EFA often refers to two models: Principal Component Analysis (PCA) and Common Factor Analysis based on purpose and computation (Fabrigar et al., 1999). I used the principal component model as the objective of the analysis was to reduce data (Norris & Lecavalier, 2010). Furthermore, varimax, an orthogonal rotation method, was employed, considering the measured factors as independent variables (Corner, 2009). Scholars (Foster et al., 2006; Field, 2009; Yong & Pearce, 2013) recommend ensuring the basic assumptions for statistical analysis (see Table 7). It is also a validating process the researcher performs before using any statistical tool. The checklist of basic assumptions used in this study is presented in Table 7.

Table 7*Conditions and Results for Principal Component Analysis*

Conditions	Results of this study
Data: Interval scale containing a five to seven-point Likert scale.	A five-point Likert scale was used.
Sample size: 300 is good.	616, including principals and employers.
Kaiser-Meyer Sampling adequacy: > 0.5 .	It was 0.894 in this study.
Communalities of average extraction: > 0.5 .	Communalities of average extraction was ≥ 0.58 .
Retention of dimension: Eigenvalues > 1 .	Five factors loaded Eigen value ≥ 1 .
Retention of items loading: > 0.30 .	Items > 0.50 were loaded.
Retaining factors: At least three items are considered valid.	Items under each component of this study retained at least three items.

As presented in Table 7, the first condition was a scale of five to seven Likert points. This study used a five-point Likert scale. Croasmun and Ostrom (2011) recommend a scale of 5-7; however, they also suggest ensuring internal consistency testing reliability. In this study, the value of reliability was satisfied before administering the survey. Surveying adequate sample size was the second condition. Scholars (Such as Gorsuch, 1983; Kline, 1994) offered 300 as a good sample size and 500 as a very good sample size for factor analysis. This study surveyed 616 respondents. Daniel et al. (2009) argue that the absolute minimum sample size is unrealistic. However, in this study, I also ensured the sample size was adequate to meet the third assumption.

The third assumption was Kaiser-Meyer-Olkin (KMO) sampling adequacy. Sampling adequacy is the ratio of correlations that directs the range to which correlations are a function of the variance common in all variables (Watkins, 2018). KMO values range from 0.00 to 1.00. However, for the factor analysis, KMO values $\geq .70$ are desired (Lloret et al., 2017). For this study, the KMO value was calculated at 0.89, presented in Table 8 below.

Table 8*KMO and Bartlett's Test*

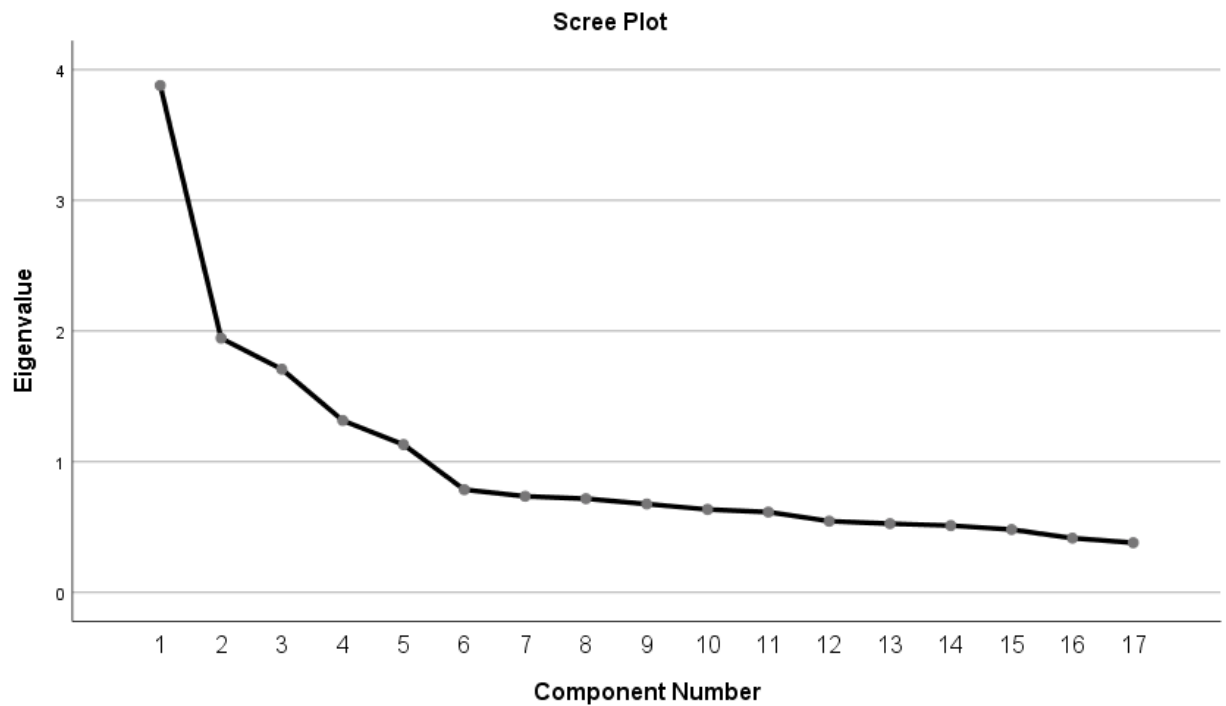
KMO and Bartlett's Test	
Kaiser-Meyer-Olkin Measure of Sampling Adequacy	.894
Bartlett's Test of Sphericity Approx. Chi-Square	6428.617
Df	630
Sig.	.000

It is nevertheless important to ensure that the measured variables are sufficiently intercorrelated to justify the analysis. The computed variable should produce a statistically significant chi-square value to justify the application of EFA (Hair et al., 2010). Bartlett's (1954) sphericity test was used to derive a statistically significant value for this study. The result satisfies the adequacy of sample size and the desired intercorrelation of variables.

The fourth assumption was the commonalities of average extraction. Tabachnick and Fidell (2007) suggest a value > 0.50 for commonalities of average extraction. All the variables were given the same weightage initially. The average extraction values in this study were > 0.50 , presented in Annexure V.

The fifth condition for Principal Component Analysis was related to dimension retaining eigenvalue > 1 . An eigenvalue is calculated for each of the resulting factors to show the extent of variance accounted for by the particular factor to all other factors (Watkins, 2018). An eigenvalue greater than one is preferred for statistical analysis (Yong & Pearce, 2013). Five factors having greater than 1 eigenvalue were retained in this study. The scree plot in Figure 8 shows a break after the fifth factor. The slope indicates the decreasing factor, and the value below one is scattered at the bottom of the figure.

Figure 8
Scree Plot



Furthermore, the computed Eigenvalue also determined the number of factors retained in this study. The analysis of the 36 questionnaire items resulted in five components with Eigen values greater than 1 to be retained, accounting for 58.69% of the total variance explained. Gorsuch (1983) explained that the factors would be more robust if the variance explained $> 40\%$. The resulting factors are descriptively presented in Table 9.

Table 9*Total Variance Explained*

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	3.87	22.817	22.817	3.879	22.817	22.817	2.192	12.894
2	1.94	11.443	34.260	1.945	11.443	34.260	2.074	12.198	25.092
3	1.70	10.044	44.304	1.708	10.044	44.304	1.998	11.752	36.844
4	1.31	7.738	52.042	1.315	7.738	52.042	1.872	11.013	47.857
5	1.13	6.654	58.695	1.131	6.654	58.695	1.843	10.838	58.695
6	.786	4.624	63.319						
7	.735	4.324	67.643						
8	.717	4.219	71.862						
9	.676	3.97	75.839						
10	.635	3.73	79.573						
11	.615	3.61	83.190						
12	.545	3.20	86.396						
13	.526	3.09	89.489						
14	.511	3.00	92.497						
15	.481	2.82	95.325						
16	.415	2.43	97.764						
17	.380	2.23	100.000						

The sixth condition set in this study was the retention of item loading greater than 0.3. The items loaded greater than 0.5 were retained in this study (Costello & Osborne, 2005). Finally, the last assumption was retaining the factors loaded with three items. Kline (1994) suggests considering at least three items in a factor to retain. All the factors with items > 3 are retained in this study. The description of loaded factors with items is presented in Table 10.

Table 10*Rotated Component Matrix*

Items	Components				
	1	2	3	4	5
Employers' Skill development plan	0.738	0.049	0.041	0.132	0.174
Employers' role in selecting instructors	0.730	0.009	0.336	-0.014	-0.147
Employers' involvement in assessment	0.695	0.085	0.334	0.037	-0.171
Formal Mechanism for employment	0.637	0.159	-0.134	0.202	0.196
Participate in monitoring and evaluation	0.261	0.740	0.044	0.043	-0.061
Labour market information	-0.150	0.728	0.207	-0.089	0.258
Timely updated Curriculum	0.141	0.636	0.018	0.175	0.234
Rebate for employers	0.024	0.614	0.394	0.087	-0.128
Participation in the development	0.125	0.186	0.745	0.101	0.153
Demand-based curriculum	0.059	0.120	0.706	-0.081	0.210
Relevant employers while designing curriculum	0.178	0.080	0.661	0.218	0.065
Awareness of its benefits	0.106	-0.004	0.159	0.781	0.053
Preparedness for collaboration	-0.027	0.256	0.001	0.739	0.141
Employers feel a need for collaboration	0.193	-0.042	0.042	0.723	0.071
Effective workplace learning	0.066	0.168	0.070	0.073	0.717
Quality classroom delivery	0.076	-0.098	0.141	0.091	0.697
Infrastructure for quality learning	-0.069	0.138	0.110	0.084	0.694

*Extraction Method: Principal Component Analysis.**Rotation Method: Varimax with Kaiser Normalization.**a. Rotation converged in 6 iterations.*

Among the factors, the first factor loaded four items, which ranged from 0.738 to 0.637. The items employers' skill development plan, employers' role in selecting instructors, formal Mechanism for employment, and employers' involvement in exam processes explained 22.8% variance in eigenvalue. The second factor also loaded four items participating in monitoring and evaluation, labour market information, timely updated curriculum, and rebate for employers ranging from 0.740 to 0.614, which explained 11.4% variance. The third factor loaded three items: participation in the

curriculum-making process, demand-based curriculum, and relevant employers in curriculum designing. The items loading ranged from 0.745 to 0.661(explained variance 10.0%).

Similarly, the fourth and fifth factors loaded three items each. The fourth factor included awareness of the benefits of collaboration, preparedness for collaboration, and employers' feeling of need for it. These items were loaded ranging from 0.781 to 0.723 with 7.7% explained variance. Finally, the fifth factor is loaded with effective workplace learning, quality classroom delivery, and infrastructure for quality learning. The loaded items ranged from 0.717 to 0.694, with a 6.7% explained variance. Costello and Osborne (2005) posit that research has to develop a simple narrative of how each factor and its constituent items (variables) make sense and given names. In the following section, I nomenclature the five factors component of drivers of education employment relationship and explain them in relation to associated variables in detail.

Five Components: Premises for a Strong Education Employment Relationship

This study explored five components as the premises of developing a good relationship between actors of education and employment. Based on the insight I gained in the previous chapters (IV & V), I levelled them as a) Defined employer's roles and responsibilities, b) Ensured accompanying measures, c) Labour market responsive curriculum, d) Readiness of the actors for common ownership, and v) Quality teaching-learning arrangements. These components are further explained in the following sub-sections.

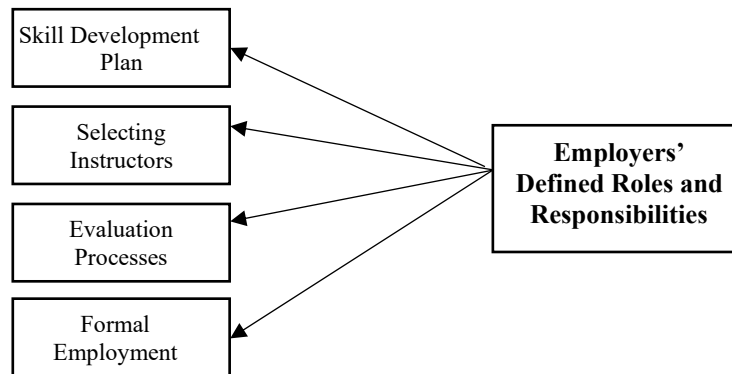
Employers' Defined Roles and Responsibilities

Employers' role in TVET is a widely researched phenomenon by different scholars (Capelli, 2014; Fuller et al., 2014; McGowan & Andrews, 2015; Rageth & Renold, 2019). More specifically, TVET providers and employers share responsibility for providing quality and relevant skills to young people (Remington, 2018). This study also found that defining employers' roles and responsibilities helps strengthen their connection with TVET providers (see Figure 9). Out of 58.7% of total loading factors for good education employment relationships, employers' defined roles and responsibilities loaded the highest 12.9% of the variance. This implies that defining the roles and responsibilities of employers in TVET supports strengthening the relationship with educational actors. This study explored a situation when employers make their skill development plans, practice formal mechanisms for employee

recruitment, help select instructors, and get involved in the exam process, contributing to developing a good relationship between actors of education and employment.

Figure 9

Components for Employers' Defined Roles and Responsibilities



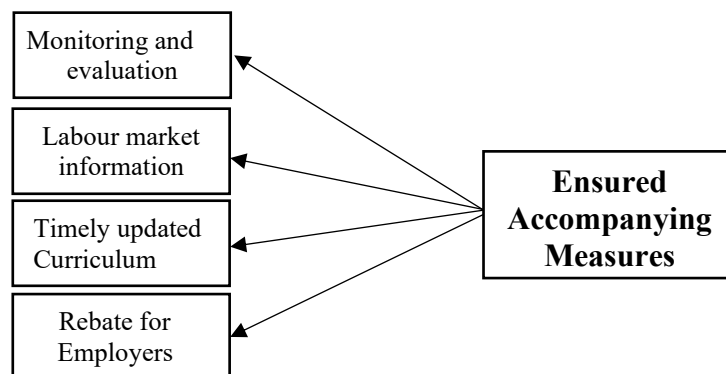
Tremblay and Le Bot (2003) assessed the German TVET system and found employers' roles, among others, in developing occupational standards, implementing and supervising students' learning, assessing and certifying, and financing TVET. They found that the Federal state, and Länder (provincial government) under the Vocational Training Act share the roles and responsibilities with employers and their associations. In contrast, this study explored these actors' lack of clear roles and responsibilities at a national and sub-national level. Actors of both systems are reluctant to bear the responsibilities. In this situation, employers' readiness to practice formal employment and make skill development plans would create a need for an education system. Chapter V explains that many employers do not prioritize skill development plans. The first reason was that they preferred to hire human resources from neighbouring countries and inside the countries through petty contractors, local contractors who generally hold a licence to supply workforce to the employers, at relatively low costs. The second was a majority of small- and medium-scale businesses and industries that were running traditionally and managing human resources within the family or in a close circle. Generally, in both cases, human resources are recruited informally. Shehu and Nilsson (2014) found in their study that less educated young people were mostly recruited for informal employment, and those who were educated were less likely to get employed. Hence, employers' roles and responsibilities in making a skill development plan for their employees' continuous skill upgrade and developing a formal employment mechanism for a decent job are pertinent.

Ensured Accompanying Measures

The TVET system in a country is closely aligned with government, employer and education sector policies and practices, although multiple social and economic factors influence these policies. This study explored four accompanying measures: monitoring and evaluation, labour market information, timely updated curriculum, and rebate for employers (see Figure 10), that positively influence the relationship between actors of education and employment. This study shows that out of 58.79% of the total loading sum, the accompanying measures loaded 12.19% of the variance. The value was similar to the first factor, employers' defined roles and responsibilities. This means that accompanying measures in TVET positively influence the relationship between actors in education and employment.

Figure 101

Components for Ensured Accompanying Measures



The first item loaded was employers' participation in monitoring and evaluating TVET. As explained in Chapter V, CTEVT has an internal mechanism for monitoring under the technical division while the research division conducts the research occasionally. In both cases, employers do not engage directly. Similar to this research finding, Amin (2016) also found employers had indirect participation in the Malaysian quality control mechanism of TVET. They were only involved in providing their suggestions; hence, it was a burden for employers to get engaged to provide their views continuously. However, employers took more ownership when they shared equal responsibilities for monitoring and evaluating the programme (Tremblay & Le Bot, 2003).

The second item loaded in the factor was the availability of labour market information. Information on the labour market is necessary to decide on the education offered in the schools and ensure that the skills supplied meet the demands (Chukwu

et al., 2020). As discussed in Chapter V, there is a lack of information on the labour market in Nepal. The persisting gap in demand and supply of skills shows that labour market information could be a viable means to strengthen the relationship between actors of education and the employment system. Askitas and Martins (2018) also found that labour market information helped develop a partnership among TVET stakeholders. The authors found that human resources were provided skills by assessing the labour market demand, which attracted employers to more relevant graduates.

Similarly, the third item loaded was a timely updated curriculum. An updated curriculum is generally considered to meet the changing demand for skills. As explained in Chapters II & V, principally, CTEVT updates the curriculum every five years; however, according to the employers, the update does not meet the market change as the curriculum updates, and most of the time, it goes without assessing the market change. In contrast to this study, a study conducted by Varaprasad (2022) in Singapore shows the coordination between economic and human resources planning of government, business/industry, and the TVET provider is relatively strong in updating the curriculum regularly and meeting economic demand. The programs of study, the content of curricula, and the mode of delivery continuously change along with a change in the skills needed. Although employers are members of the curriculum feedback phase, unlike in Singapore, actors of education in Nepal generally decide the content of the curriculum. In such cases, the update follows the requirement of education qualification rather than the changing employment skills. Consequently, the less relevant curriculum to the employers does not encourage them to collaborate in the skill formation process.

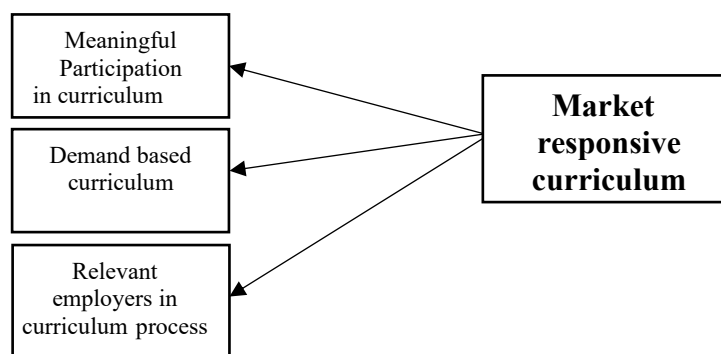
Finally, the fourth item loaded was a rebate for employers. The research participants in this study (described in Chapter V) also viewed tax subsidies as a possible approach to encourage them in the TVET system. However, the research participants also put forth non-financial measures as it could help employers gain social recognition. There are various arguments among scholars (such as Deloitte, 2012; Hogarth & Gambin, 2014; Kuczera, 2017) on providing levies to the employer in the TVET system. Kuczera (2017) explains that the government offers incentives, such as financial and tax subsidies, to attract employers. However, in this study, I found that incentives can be both financial and non-financial and also positively influence to strengthen the relationship between actors of education and employment.

Labour Market Responsive Curriculum

This study explored the fact that a labour market-responsive curriculum supports strengthening the relationship between education and employment. This study shows that out of 58.69% of total loading factors, the third factor, labour market responsive curriculum, loaded 11.75% of the variance. This also means labour market-responsive curriculum equally positively contributes to developing a good relationship between actors of education and employment.

Figure 11

Components for Labour Market Responsive Curriculum



As presented in Figure 11, the first item loaded was the meaningful participation of employers in the curriculum designing process. Chapter V also explains that employers participate in the curriculum designing process but have very few roles in finalizing the content. This has resulted in a less relevant curriculum, and employers take less ownership. In contrast to the findings of this study, Mongkhonvanit and Choomnoom (2022) found employers from the Federation of Thai Industries and the Thai Chamber of Commerce's contribution to developing skills standards was one of the strong aspects of the successful implementation of the TVET system in Thailand. Nevertheless, my study found that participation by itself does not ensure that employers contribute to the curriculum process. It was only a sake of their involvement, and their participation was not constructive, even if the members of the employers' association participated.

The second loaded item in the third factor was a need for a demand-based curriculum. The demand-based curriculum is considered supportive in balancing the equilibrium between the supply of the education system and the demand for skills in the employment system. This study explored the idea that TVET in Nepal is supply-driven. CTEVT considers many sources, such as research findings and TVET

providers, including employers' as the source for curriculum demand. Although, in some cases, employers demand the curriculum, education actors decide the occupational standard. As a result, according to the employers, there is a gap between their demand and supply of skilled human resources. Yamada et al. (2018) say this gap occurs due to limited interaction between the actors on the supply and demand side. A study conducted by Ibrahim and Mat Nashir (2022) in Malaysia also found a gap between the demand for industry and the supply of programmes. In such a context, employers in Malaysia had to make a wide selection of young people, although they were TVET graduates. Hence, a demand-based curriculum is important to fill the gap and create harmony among supply and demand stakeholders.

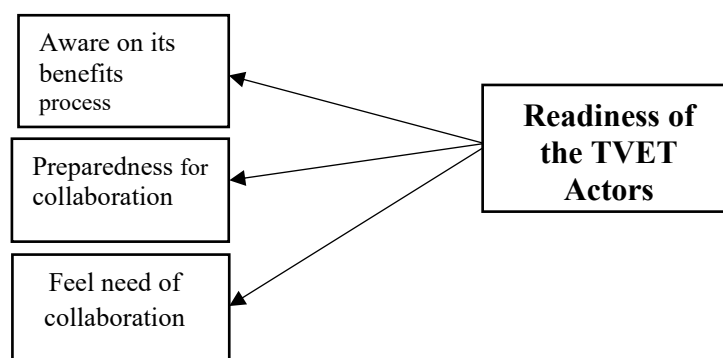
The final item in the third factor loaded was the participation of relevant employers in the curriculum-making process. As discussed in Chapter V, CTEVT invites a representative from employers' associations. However, the existing practice shows that employers from relevant fields do not necessarily participate in designing curricula. This gap in participation has mainly affected employers' meaningful participation as they contribute very little and become invitees.

Readiness of the (Key) Actors for Managing TVET

A good relationship between actors of education and the employment system is possible when they become prepared. This study explored how the preparedness of both actors of education and employment affects their relationship. The factor loaded 11.01% of variance out of 58.69% of total loading factors. This indicates that actors' readiness in TVET, similar to the other three factors presented above, positively influences the relationship between actors of education and employment.

Figure 12

Readiness of the TVET Actors Managing TVET



As presented in Figure 12, the first item loaded in the factor was awareness of the contribution of TVET. Among many challenges in implementing successful TVET in Nepal, its low image (as described in the previous chapter) compared to general education has also diminished its importance among the stakeholders. A study conducted by Wu et al. (2019) in the Philippines also found that society values general education graduates more than TVET graduates. The authors argue that the relevant stakeholders were not fully aware of the importance of TVET to the labour market. In such a context, regular interaction among the actors in implementing the TVET system was crucial.

Similarly, the second item was the preparedness of the TVET actor managing TVET. Preparedness in this study was both based on perspective toward the TVET as the relevant stakeholders were reluctant to consider its importance, and there was a lack of enough physical infrastructure to run the programme. Unlike this study, Mehrotra et al. (2015) found that larger industries in India showed more willingness to participate in the skill formation process than small firms. However, those industries with their own training centres and small-scale industries were uninterested in collaborating in the skill formation process of TVET.

Finally, employers felt that need was the last item loaded into the factor. This indicates the importance of absorbing the capacity of the labour market. As described in Chapter II, many small- and medium-scale businesses/industries in Nepal are run traditionally, particularly within family clans or in support of their relatives, and formal employment has a comparatively smaller share in total. Furthermore, (also explained in Chapter V) larger business industries are unwilling to collaborate because they are not getting competent human resources according to their demand. In contrast, small and medium-scale businesses/industries do not like collaborating as they fulfil their needs through an informal channel. Mehrotra et al. (2015) argue that a partnership can be developed to make common ownership financing TVET, as neither the government nor the employers will get ready to bear the cost. If employers are convinced they need a skilled workforce, they will be more eager to participate in the skill development process.

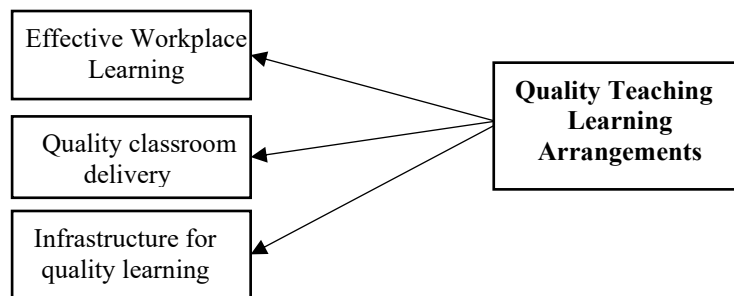
Quality Teaching Learning Arrangements

TVET integrates both classroom and workplace learning. Quality teaching-learning environments support making learning more effective and attract employers to collaborate with the schools. As explained in Chapter V, employers were more

interested in collaborating with the schools where they found quality teaching-learning arrangements. The survey also explored that quality teaching-learning arrangements support building collaboration with employers as they trust graduates who have learned in a quality learning environment. The loaded variance of 10.83% in the last factor shows that quality teaching-learning arrangements also influence the relationship between actors in education and employment.

Figure 13

Quality Teaching Learning Arrangements



As presented in Figure 13, the factor loaded effective workplace learning in the first item. Workplace learning is planned to provide opportunities for the learning environment and support students transitioning from school to work (OECD, 2010). Furthermore, students get a chance to learn about workplace experiences and update their acquired knowledge. However, this study also explored that workplace learning supports strengthening the relationship between educational and employment actors if managed effectively. Grollmann (2018) compared workplace learning practices in seven European countries and found various dual responsibilities among the actors. These actors had their defined responsibilities to make workplace learning function successfully. However, this study explored (described in Chapter V) that workplace learning faces numerous challenges, including a lack of trust between employers and education providers, although they are involved in workplace management. In such cases, improved workplace learning could be one of the premises that actors of education and employment harmonize their relationship.

The second loaded item was quality classroom delivery. As described in Chapter V, employers in this study claimed that they were likely to get more interested in hiring students from schools with a good image of providing quality education. Ludvik et al. (2018) assessed the image of the schools in the general public and other relevant stakeholders and found they were associated with the quality of learning in the school. They found that a positive school image was supportive of the

teaching-learning process and built up a harmonious relationship with other stakeholders. Hence, quality classroom delivery contributes to developing a positive image of the school and builds trust in other stakeholders to collaborate.

The final item loaded in the factor was infrastructure for quality learning. TVET in Nepal has not been integrated as firmly into general education and is failing to allocate adequate resources. Consequently, in many cases, TVET is unable to skill the workforce to meet the needs of the economy. A study conducted by Tan and Seet (2020) in Singapore found that the government's massive investment in establishing quality infrastructure in TVET, particularly in the last few decades, significantly improved the image of the TVET schools. However, Nepal, as a low-income country, might not be able to invest enough in quality infrastructure. In such a context, partnerships with employers could reduce the cost as they could support establishing workshops and managing workplace learning.

The responses were also separately analysed by actors of education and employment (see Annexure V). Six items, employers' participation in monitoring and evaluation, labour market information, timely updated curriculum, rebate for employers, readiness for collaboration, and feeling the need for a relationship, were loaded in employers' data. In contrast, only three items were loaded on data from principals: employers' engagement in instructor selection, employers engagement in the evaluation process, and the need for quality infrastructure. It is interesting to note that no common items were loaded in the segregated responses.

The Essence of the Chapter

In this chapter, I presented the premises of developing a good relationship between the actors of education and employment. Overall, their relationship is nurtured by multiple aspects. It is the outcome of collective efforts; however, readiness of individual actors, institutional arrangements, regulative aspects (both legal and social), motivation, and active participation of relevant actors positively influence the relationship. In the following chapter, I discuss synthesizing the results derived from all three stages of studies and argue that a relationship between actors of education and employment in Nepal is developing gradually; however, there is a persisting gap in policy and practice.

CHAPTER VII
RELATIONSHIP BETWEEN EDUCATION AND EMPLOYMENT IN NEPAL:
AWAITING TIME FOR BREAKING NEW GROUND

In the previous chapter, I presented the premise of strengthening the relationship between actors of education and employment in Nepal. In this chapter, based on the study findings presented in Chapters IV, V, and VI, I present the key results in a joint display that the actors of education have more power in the curriculum process; thus, their relationship with actors of the employment system stagnates. I present three main underlying causes: lack of shared ownership of TVET among/between actors, resistance in transitioning from a supply to demand-based TVET system, and the relationship has been a neglected agenda. Finally, I note that developing an understanding among the actors at different levels on their defined roles and responsibilities, building a sense of shared ownership by TVET actors, providing quality teaching-learning, preparing a labour market-responsive curriculum, and ensuring accompanying measures in the curriculum process are required to enhance the relationship between education and employment in Nepal.

A Joint Display of Mixed Methods Research Findings

This study's overall education employment linkage index score indicates that employers have less decision power in major curriculum processes. Although the score is slightly higher (2.5 to 3.0) than the study by Caves et al. (2021), the role of employers is still weak in most of the sub-processes. The first two phases, design and application, saw small changes in index values from 2.6 to 2.7 and 3.1 to 3.5, respectively, while the feedback phase showed a steady improvement in the same value from 1.5 to 3.0. The results show a gradual increase in the participation of employers in the curriculum process; however, as shared by the research participants in this study, their participation has not been meaningful in deciding important curriculum processes such as curriculum standards, teaching-learning arrangement, and evaluation of the implemented programme. As such, actors of the education system take major roles and rule the curriculum process.

This study found the lowest score in the curriculum design phase, which the respondents ranked the most important among the others. The gap between the perceived importance of the curriculum process and the calculated index score shows a clear policy practice gap in the context of Nepal. This study explored several reasons for such a persisting weak relationship between actors of education and

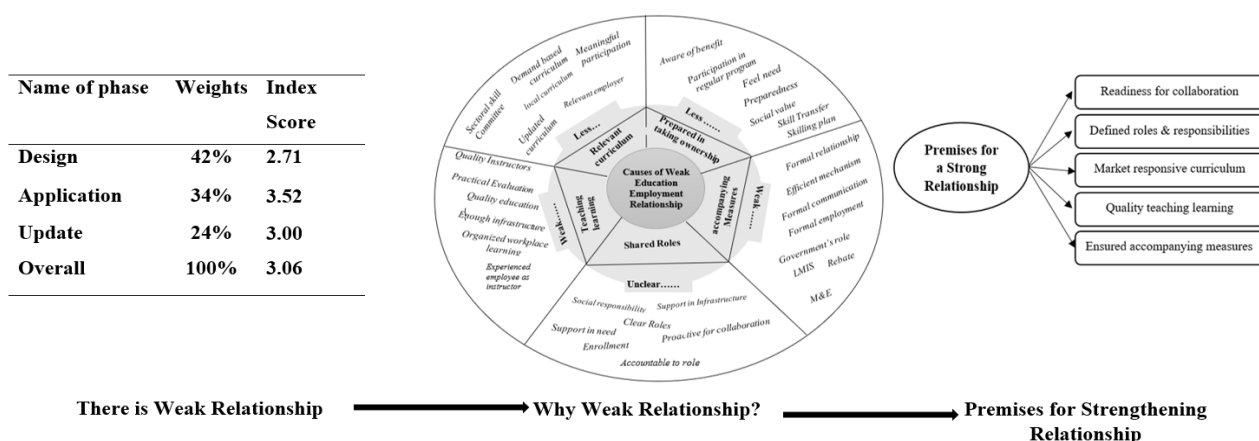
employment in Nepal and shows actors of both systems have yet to develop a mutual understanding to manage TVET and strengthen their relationship.

Actors of education generally decide the curriculum standards; hence, it becomes less relevant to the employers. There is also a lack of trust between these actors as schools fail to provide relevant skills in a quality teaching-learning environment. Actors of the employment system participate in some curriculum processes; however, they are ruled rather than given the roles. The weak accompanying measures, such as the lack of a mechanism for formal communication and motivation for employers, were also found to be other issues constraining the relationship between the actors of these two systems.

Finally, this study explored five premises for strengthening the relationship between actors of education and employment in the context of Nepal. Quality education attracts employers to collaborate with actors in the education system. However, fulfilling their felt need also determines their readiness for collaboration. Labour market responsive curriculum, their defined roles and responsibilities, and ensured accompanying measures such as motivation and formal and efficient mechanism for collaboration among/between the actors also affect their relationship. I display the key findings of this study, which were explored in three different phases, in Figure 14 below.

Figure 14

Joint Display of Findings of the Study



This study explored the roles and involvement of the employment system’s actors in the curriculum process and found that their participation was relatively low.

This illustrates the reality that policies alone cannot foster engaged participation. In the following sub-sections, I discuss major themes from my study findings supported by literature and theoretical references.

A strong Relationship is an Understanding between/among the Actors

In this study, I found that the relationship depends not only on the actors' participation in the curriculum process but also (and most importantly) needs a minimum understanding among them to make participation meaningful. Understanding is a consensus between/among the actors and becoming ready to take ownership of the process they engage in. The understanding among the different TVET actors is also associated with their willingness to participate in the process. It is a process that actors need to develop agreements within the system and outside the system. For instance, in the education system, officials at CTNET, principals, and instructors, and in the employment system, the employer's association, sector skill committee, and individual employers are different actors who need to develop understanding within their system and with outside the system. Euler (2013) argues that the consensus between these actors in the TVET system is based on a dual principle. For Euler dual principle is shared roles and responsibilities between different actors at various levels in the TVET governance process. For example, actors of education and employment share roles in finalizing the qualification standard and share responsibilities in arranging both classroom education and workplace learning. Similarly, the relationship is based on the principle that the actors develop an understanding despite the differences in their purpose.

However, developing a minimum understanding between these actors inside and outside the system is a complex social process. The interests of the actors in these two systems remain different at various levels. They collectively work to meet their own goals but, in the process, also support the fulfilment of others' goals. Luhman (2013) argues that a system has its goal that makes them exist in society. The education system aims to educate students, and the employment system seeks to produce goods and services with competent human resources. In this case, they are two different systems with different purposes. Although these systems function in their structure with their specific purpose, they share the environment. The environment in this study is the TVET system.

Among many objectives, these two systems have a common aim of competent human resources. In other words, the education system's output becomes the

employment system's input. This study revealed that these actors have yet to understand how to achieve their goals and support each other to attain common goals. I found a lack of understanding between them within and outside the system with other systems. For example, in the education system, I found a lack of coordination between CTEVT and its affiliated and constituent schools as well as among different institutions responsible for the governance of TVET.

Furthermore, they were uncoordinated at different levels of government. Participants in this study shared various bureaucratic hurdles, as the principals in the interview shared difficulties in operating day-to-day activities in school. The schools concentrated on survival (emphasis is given to collecting the students) to avoid a financial crisis. As such, the relationship agenda with the employment system was less important. During my field visit, principals shared that they collect students from different geographical regions to run their schools instead of assessing the market demand. The situation indicates that schools collect students only when the enrollment capacity and demand in the employment system are not a priority.

This study also explored missing coordination between the actors within the employment system. The employers' associations and sub-sectors were loosely connected in developing good coordination. Limited sector skill committees in the employment system show a clear gap that such sub-sectors remain excluded from the process. The study found that the employer association representative (in many cases, the same person) repeatedly participated in designing curriculum. Furthermore, many individual employers were unaware of the process. They did not trust in the competency of the graduates as they were neither part of the skilling process nor aware of it.

Similarly, a consensus was lacking between actors of education and employment systems. Table 11 below shows areas requiring understanding between the actors of these systems.

Table 11

Areas Requiring Understanding Among the Actors of Education and Employment in Nepal

Area of consensus	Lacking in the context of Nepal
Regulations	<i>Who does what?</i> <i>Mechanism for communication</i>
Curriculum content	<i>Qualification standard</i> <i>Exam</i>
Financing	<i>Learning cost</i> <i>Infrastructure</i>
Teaching learning	<i>Classroom learning</i> <i>Workplace learning</i>
Supervision	<i>Classroom learning</i> <i>Workplace learning</i> <i>Exam process</i>
Responsibilities	<i>Arrangement of instructors</i> <i>Students' enrollment</i> <i>Exam process</i>
Regular activities	<i>Regular Job Fair</i> <i>School's programme</i> <i>Updates of curriculum</i>

Source: Researcher's illustration based on interaction with research participants

Regulation is related to legislative provisions to govern the TVET system. There was confusion among the actors about their roles, and they were firm in their convictions. The majority of the participants, school principals and employers, believed that the education system should initiate collaboration with the employment system. TVET practitioners, however, prioritised employer-initiated engagement in which employers demand qualification standards and actors of education fulfil the need accordingly. But, this study revealed actors of education had a leading role in deciding the qualification standard of pre-diploma. Keep (2015) argues that employers take ownership of TVET if there is something on their own to do. However, the participants in this study informed that employers do not participate meaningfully in many of the important processes as their roles in the process were neither felt as necessary by actors of education.

The lack of understanding in sharing their roles and responsibilities between the actors had several consequences. One such was weak participation in developing qualification standards. The employers wanted to emphasize the practical part of workplace experience; however, academicians prioritize theoretical aspects,

considering students' future career paths. However, the decision is often made in favour of actors in the education system because the whole decision-making process is under their control. Although the employers participate in the decision-making process, they witness and do not express dissatisfaction. There was a blaming game between the actors as officials in the CTVET blamed employers for their disinterest in the process.

In contrast, employers charged that actors of education imposed themselves across the process. The discontent of employers with curriculum standards had several consequences. The foremost was a lack of ownership in the prepared curriculum. Furthermore, the employers had less trust in the competency of the graduates. Barrett (2004) explains that the power structures and relationships between participating actors significantly influence policy processes. This point of view is also echoed in this study; actors of education hold most of the power, and employers merely participate in their participation and obey the authority. In connection with these arguments, the relationship between actors of education and employment is influenced by the nexus of power relationship. By following Foucault's (1980b) example that "locate power at the extreme points of its exercise, where it is always less legal in character" (p. 97), in this study, I found the impact of the power relationships existed across the curriculum processes which also becomes a roadblock for developing minimum understanding between the actors. One system exercises power over the other through every relationship structure, and neither system easily gets ready to lose the power. Actors of education are privileged to exercise power, and employers tend to ignore it, as in this study, they take no ownership even if they participate in the curriculum process.

A lack of understanding among the actors is lacking in arranging both workplace and classroom learning. Students spend most of their learning time in school. Although there is also an opportunity for workplace learning, neither the employers nor the school principals realise their responsibilities for its effective arrangement. They mistrust each other as employers do not see trainee students as their future employees, while principals see sending students to the employer as only the responsibility. They lack understanding in managing quality learning opportunities for students. This has several consequences, such as the employers making a subjective evaluation of the students, which, in many cases, is unscientific, as shared

by research participants. Instructors mostly facilitated the classroom learning and employers rarely visited the schools.

The financing cost for both learning arrangements and infrastructure was also an area that needed understanding among the actors. Financing includes managing both classroom and workplace learning. Classroom learning includes costs such as regular management expenditure, teaching materials, equipment, buildings, and other infrastructures, and workplace learning includes incentives for the students.

Busemeyer and Trampusch (2011) claim that the commitment of the actors to TVET is reflected in their investment. I found that financing TVET in Nepal is primarily shared by parents who pay their children's regular fees, followed by the government (Kushiyait, 2022). Employers rarely provide financial support. Young and Hordern (2014) argue that employers' associations have become more practical for financing TVET than individual employers because they have developed common ownership among employers. However, a partnership was not built between the actors of education and employment who could collectively share the cost, nor was any understanding made among the employers and their associations. This study showed that employers made significantly fewer financial contributions, and individual employers might not be ready to finance the schools, as in the interviews, employers were more concerned with their return than investment. However, it was found that they often provided their workshop for the students to learn. In this case, an understanding between these actors would support making workplace learning more effective. It could be a viable approach to reducing the cost of establishing a workshop in the school.

The employment system actors were primarily unaware of classroom teaching and learning activities. The study's participants (both employers and officers in CTEVT) mentioned that employers either are not part of the process or are less engaged during their participation. Such exclusion of employers in the curriculum process hinders possible collaboration (Wudneh et al., 2022). Employers had no contribution in arranging instructors in the schools. The positions in the schools were filled mainly with university graduates, mostly on a temporary contract basis, who had little industrial experience. Instructor positions were hard to fill in, particularly in a rural setting, and thus, academic qualifications were a major basis for instructor selection. These actors have not realized each other's importance in overcoming this constraint.

The lack of understanding within the actors of the employment system (between sectoral associations, sub-sectors, committees, and individual employers) to had two distinct consequences. The first is a lack of participation from relevant occupational sectors in the curriculum process. The second is they are fragmented and, hence, are less authoritative in making a final decision. Taylor (2009) argues that ensuring influential representatives from the relevant sector in the curriculum process is challenging if the labour market system is not well developed. The informal sector covers a large share of Nepal's employment sector, and informal employment dominates even in the formal sector (CBS, 2019). The employers' associations have been dominated by larger businesses/industries in Nepal, and there is a lack of coordination among/between them at national and sub-national levels. Weak coordination between the actors of employment was also found by Sharda (2017) in a study conducted in India. The author found that the employers who do get involved in the curriculum process were the larger business/industry. This means that the curriculum process, in general, often tends to gear toward the needs of larger-scale businesses/industries and is far from small and middle scale businesses/industries, which employ the largest proportion of the workforce (Young & Hordern, 2022). The representatives from the association (often the same person who participated repeatedly in the curriculum design process) rarely represented sectoral occupational sectors. Consequently, the representative hardly made any contribution in most of the cases, which weakens the relationship.

Overall, a lack of understanding among the actors in their activities has weakened the relationship between them. Luhman (2013) posits that, in a social system, the actors of one system remain in interaction with the actors of other systems. Disagreements and agreements between/among the actors of systems are fundamental processes in the institutionalization process. Luhman takes variance as an equally important approach that contributes to a system becoming unique from others. In this connection, Germain (1991) also argued that disagreement arises when one group abuses power over the other. The power also creates tension in the interaction of the actors, which also affects the development of understanding among them. In this study, I explored actors in both the systems functioning in the vertical relationship. For example, the employer's association is in supreme power, and sub-sectors and individual employers are loosely coordinated. The actors in sub-sectors and sub-national levels are not provided a space for participating in a disagreement

and agreement process; as a result, the institutionalization process of their relationship becomes weak, and misunderstanding is perpetuated.

The Relationship is Affected by Broader Political and Sociocultural Processes

A minimum engagement between the actors of education and employment has been established in Nepal. It is gradually changing as this study found an increment in the education employment index score compared to the past. Moreover, a significant change is located in the employers' participation according to the policy provision, but the actors themselves are not convinced that their engagement has contributed to each other. This shows a policy practice gap as their participation has increased by policy; however, in practice, it is lagging.

The CTEVT Act 1989 saw the importance of a good relationship between actors of education and employment systems. More specifically, the act made provision for involving employers in the curriculum development process. Also, it encouraged the connection between them in the curriculum application phase, creating different types of workplace learning opportunities. The TVET policy of 2007, later amended in 2012, deconstructs the understanding of TVET and lessens the need for their collective engagement. These policies take the TVET either for an early school leaver or for lower grade achievers in secondary education. These students generally belong to underprivileged groups in Nepal who usually do not get access to quality education. In this case, TVET becomes education for low-grade achievers and students from underprivileged groups. Relly (2022), in his study in England, found that middle-class and upper-class children are likely to go through the academic route rather than TVET. This impacts the decisions about TVET being made by public authorities such as politicians, policymakers, and civil servants who have little or no experience of the TVET route.

The persisting policy practice gap in Nepali TVET is also the outcome of the hierarchic class system (Subedi, 2011). Back in the 14th century, King Jayasthiti Malla, in his *Jata Nirnaya* (Caste Decision) classified hierarchically four *Varnas* and 64 *Castes* with their prescribed job description, for example, Brahmin for religious work, Chhetri for armed force, Chitrakar for painting etc. The *Varna System*, social and legal order according to the caste system, continued for a long and the promulgation of *Muluki Ain*, an old legal code, in 1854 is evidence (Sharma, 2004). Although Höfer (2004) noticed the transition in the occupational field that *Muluki Ain* did not specify occupational affiliation to a particular caste, in practice, all were not

allowed to sharpen the tools of all occupations. Hence, occupational skills ascribed to social status continued to work and still prevail as an indicator for interpreting one's social status. TVET education for the lower grader that leads to the blue collar jobs also lowers its image in society. As such, it becomes less important to middle-class civil servants whose children do not go through the vocational route.

During the study, I also observed a low social value given to the pre-diploma graduates by employers. Haybi-Barak and Shoshana (2020) mention that it is important to how governments, employers, communities, and individuals perceive TVET. Furthermore, Billet (2014) posited that relatively low standing affects how instructors, parents and other members of society are willing to engage in the TVET system. Both the education and employment actors in the interview perceived it as an alternative to general education, as it is valued low among them. The TVET graduates are generally differentiated compared to graduates from the general stream.

Holmes (2009) pointed out the challenges of TVET to become a mainstream education. The first is that TVET is expected to transfer specific skills and make students competent enough for higher education. This often results in a gap between expectation and reality when it cannot prepare competent human resources with relevant skills. The second challenge is that the TVET has been neglected. Consequently, it lacks effective, evidence-based planning and enough resources to manage it.

The relationship is also not a priority for employers. The Industrial Trainee Training Act 1982 was billed to link employers with the skill formation process; however, employers resisted and could not come into its implementation (Shrestha, 1991). In this study, I found employers reluctant to develop a relationship in this study for two reasons. First, they easily fulfilled their needs through family tradition or informal channels. This was also related to investment to train the employees, which was an extra burden to the employers. However, it was also associated with their relevant and competent human resource needs. The second was felt need. The employers in this study explained that many of them are unaware of possible benefits when they develop a collaboration with the actors of education. Instead, the employers who run their business/industry informally avoid collaboration with educational actors to avoid possible bureaucratic difficulties. In both situations, the strengthening relationship with educational actors becomes less important to employers.

Meyer and Rowan (1977) posited that a particular social programme emerges with its need. Considering this, the TVET was developed in Nepal when there was a felt need for skilled human resources (Pandey et al., 1956). However, the practices in society survive when it increases their legitimacy (Scott, 2014). I argue that the formalized relationship is neither legitimized by actors of education nor attracted actors of the employment system; thus, it becomes a neglected agenda. TVET is for people of underprivileged groups, which never became a priority for elite groups. According to Mariotti (2020), in every society, a small group of individuals control a majority of the people. For these elites, the issue of underprivileged groups does not become a priority. For those handfuls of people in both education and employment systems who have the privilege to make decisions, TVET has become a means to exercise their power. In this case, the relationship between these actors for the development of TVET becomes a neglected agenda.

Resistance for Developing a Strong Relationship is not Weak

The actors of education in Nepal hold final decision power across the curriculum process. In this case, it is supply-oriented (Taylor, 2009) in which graduates are supplied according to the capacity of the TVET providers rather than the demand of the world of work. Nevertheless, Nepal's policies envision demand-based TVET system with employers' increased participation. Although the demand-based TVET system remained a popular policy agenda in the past, in practice there is resistance to transitioning from a supply-driven TVET governance system.

Having a policy, however, does not mean that the relationship between the actors becomes strong. This study indicated that the problem lies in translating policies into practice. Nepal saw many policies explaining the TVET governance and also had set goals of strengthening the relationship between the education and employment system. The Industrial Trainee Training Act 1982 was billed as a big breakthrough for TVET and apprenticeship programmes. However, there was resistance from the employers to its implementation as it was not their realized need (Shrestha, 1991). Similarly, the CTEVT Act 1989 and TVET policy 2005 and 2012 were also crucial policy provisions envisioning a strong relationship between actors of education and employment. Although these policies helped to develop and expand the TVET system in the country, they contributed little toward developing a solid relationship between these systems.

It is a pertinent question why such resistance exists to translate policies into practice. The resistance was both direct and indirect. The employers did not like to change the informal mechanism for human resource fulfillment, while actors of education refused to engage employers in many necessary processes such as evaluation and enrollment. According to Yılmaz and Kılıçoğlu (2013), there are different social and economic causes for resisting change in the education system. The scholars argue that a fear of losing power creates an unknown threat to those who possess decision-making power. The actors of the education system hold most of the decision power in the curriculum process as they represent the authoritative power. According to Weber (1978), members of the authority are in a position to exercise their control. In this case, it could be argued that these actors do not want to lose the existing regime.

Furthermore, they resist changing TVET governance from supply to demand-driven, fearing employers' possible influence. I found such resistance to power sharing among the actors of education across the process. Employers participated in the curriculum process but without strong decision power. Similarly, they were excluded from some important activities such as enrollment, assessment, and monitoring and evaluation of the programme. The educational actors did not see employers' importance in such a necessary process. Such exclusion resulted in poor trust between them.

Similarly, resistance was also found on the employers' part. The employment system in Nepal is mainly informal. This study found that most employers do not make their skill development plans and rely on informal sources for hiring employees. Many employers are not ready to formalize their business/industry for fear of possible bureaucratic hurdles. As such, they were not prepared to collaborate with TVET providers. Furthermore, the employment system was not ready to groom people to be future employees. They viewed TVET as either only part of a school or a benefit for the students. In the study, as described in Chapter V, employers neither sent relevant representatives in the curriculum design process nor properly supported students; in extreme cases, they charged levies with the students during workplace learning.

Resistance is also found at the meso level in TVET providers (technical schools) and businesses/industries. The school principals neither accepted the importance of employers' engagement in the regular school process, such as students' enrollment and instructors' management nor felt the need for the final evaluation

process and monitoring and evaluation of the implemented programme. Similarly, employers did not give importance to collaborating with TVET providers nor were supportive during workplace learning. They did not see a benefit in participating in the process. Particularly, type two employers (also explained in Chapter V) who do not give incentives to trainee students and type three employers, who charge levies to the students for giving workplace learning opportunities concentrated on their benefit. This also implies that these employers ignore education, and students have their educational progression route besides employment.

The resistance was there at a micro level to make their relationship formal. In most cases, the individuals (both employer and school principal) were channelled through an informal relationship. Principals were found establishing a relationship with employers based on their intimacy and, in some cases, their political affiliation. In this context, some employers shared their preference for informal channels for two reasons – an easy and efficient way of fulfilling demand and avoiding possible political threats from the employees. The first was related to the cost they could save by hiring a competent human resource from an informal source at a relatively cheaper cost. Second, they need not worry about labour-related unrest in the business/company. Nevertheless, such relation was established temporarily, continued only for a time being, and discontinued after the change in personnel. In this case, the preference for the informal mechanism was also a resistance to engaging in the formal mechanism.

This situation of resistance has been a constraint to transit from supply-driven to demand-driven, which ultimately affects these actors in developing a good relationship. Resistance arises when a situation does not become favourable. According to Leighninger (1978), each system has its unique structure but is also interdependent with other systems. In this context, having a structured system of education and a system of employment are also interrelated as the output of one system becomes the input of another. However, within the interdependence, there are some boundaries a system creates to balance its relationship with other systems as well as for its existence. In this case, a system attempts to balance what is in and what is out. For a system, what is outside is its boundary. Luhmann (1995) also posited that differences are basic characteristics of a system. However, for Luhmann, how a system deals with other systems outside the boundary is more important. In this case, differences do not exclude the other but operate differently. He further argued that

there is resistance when there is contradiction, but they are also a logical functioning of a system that makes them unique. In this study, I also found a difference between the actors of the two systems as they function with different objectives in different structures. However, their differences were not accepted by each other in both education and employment systems. Employers who had different interests from the actors in education were excluded from many of the essential activities of the curriculum process. Similarly, employers were not found to accept their constructive role in the curriculum process.

Enabling Environment Nurtures their Relationship

This study explored the fact that actors of education have more power in the curriculum process. But if we consider that the ideal type of linkage (Rageth & Renold, 2019), among others, lies between the index value (1-7), the calculated value (3.06) is closer to the ideal situation. However, further exploration through qualitative study revealed the lack of meaningful participation of actors of employment across the curriculum process. The relationship has been established in all three phases of the curriculum process; however, it is unidirectional. Actors of the education system play an active role while actors of the employment system remain mere participants in most of the activities in the curriculum process.

The TVET system in Nepal is input-oriented. As explained in Chapter II, TVET providers supply graduates in the world of work based on their capacity rather than the demand. Reviewing policies governing TVET in Nepal, I found, however, that the policies provide a direction towards the output-oriented system with increased employers' participation. The explored score in this study also shows employers' roles have increased over time. But the result of this study also indicates that having a policy provision does not necessarily translate into practice. More specifically, a good relationship ensures the successful TVET when its relevant actors are ready to translate policies into practice. Although the employers participate in some of the processes according to existing legal provisions, their participation was not meaningful as they had little or no power to make a final decision. Consequently, there was a lack of sense of shared ownership in the curriculum content and no trust in the competency of the graduates.

Borrowing the ideas of scholars (Higgins et al., 2010; Rageth & Renold, 2019; Busemeyer & Trampusch, 2011; Rauner & Wittig, 2010), I argue that a minimum understanding between the actors of education and employment at different levels is

necessary to contribute in developing a successful TVET system. In this case, the relationship becomes a process where relevant actors at various stages and levels develop an understanding through the agreeing and disagreeing. But their relationship weakens any side of the actors excluded from the process.

The relationship is also a collective process between actors of education and employment that manifests at different levels (macro, meso, and micro). The system becomes weak when good coordination is not established between/among them (Luhmann, 2013). The actors were indifferent in many important activities of the curriculum process, although they belonged to the same education or employment system. For example, in the curriculum design and feedback phase, the actors who participated were basically from the federal government (representatives from employers' associations, officials, and academicians), while in the application phase, actors from individual institutions, schools and industries connected. The lack of defined roles led them to confusion and constraints in following formal mechanisms. As in this study, in many cases, I found the relationship between the actors was developed based on the temporary informal mechanism.

In this context, I am closer to the idea of Rageth and Renold (2019) that, in ideal type, actors of both systems equally share decision power across the curriculum process and Busemeyer and Trampusch (2011) that their engagement correlates with their commitment to the TVET system. However, I further argue that the relationship between/among the actors should not be understood as a static dichotomy of strong and weak. I saw it as a dynamic process that was neither fixed nor permanent but fluid. The fluid does not have a fixed shape and keeps changing (Dowell & Hall, 2001). It is a situation where actors become ready to take ownership of the activities they are engaged.

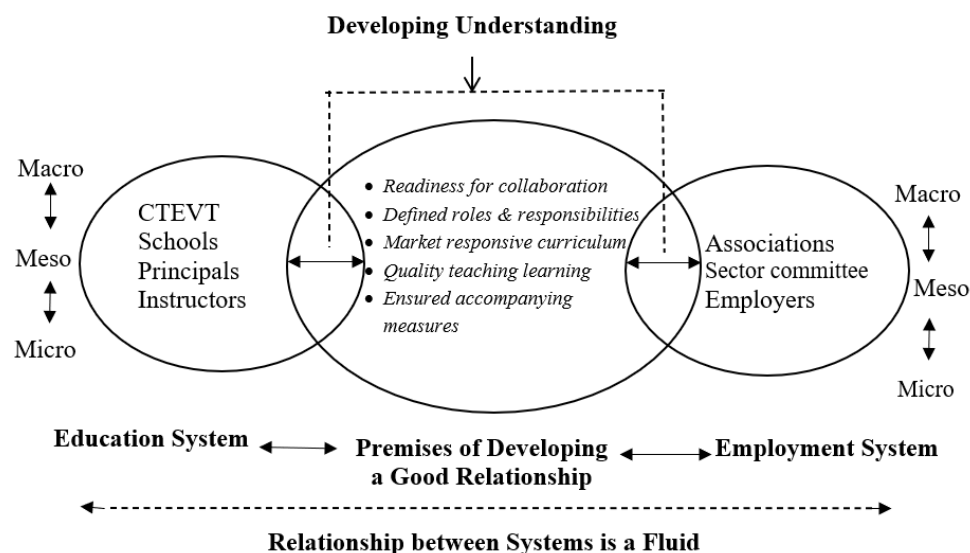
In this case, a good relationship between the actors is built in an enabling environment. The enabling environment is a situation where the education and employment system actors agree to collaborate in the skill formation process. Luhmann (1995) posits that system functions interact with the environment in its institutional process. Enabling the environment supports the system to grow and perform well in society. I explored five premises as an enabler for developing a strong relationship between the actors in the context of Nepal. The first was ensuring the roles and responsibilities of the employers. In the study, I found that employers witness the curriculum process. They are invited; however, the final decision on the

content of the curriculum is hardly made in their favour. In other words, the academic component dominates the curriculum, weakening the graduates' practical experience. In the application phase, employers facilitate students in workplace learning; however, mostly, they were found accessing students' knowledge and competency level based on their subjective decisions in the absence of collaborations with the school that sends students for workplace learning. Besides, well-defined standards for facilitating and accessing students are absent. In Figure 1, I show how actors of education and employment require coordination at different levels to develop an understanding.

This study found that actors require their readiness for collaboration. For readiness they need to be aware of the contribution of their possible collaboration and capacity to provide a quality teaching-learning environment in the classroom and workplace learning. Clarity is needed in their own and other actors' roles and responsibilities to meet each other's needs. Accompanying measures such as motivation to the employers and availability of information on both supply and demand are also found to influence their relationship.

Figure 15

Premises for a Strong Education Employment Relationship



Overall, a strong relationship between actors of education and employment is requisite for a successful TVET system. It supports engaging its relevant stakeholders for collective work and achieving their goals. However, it is pertinent to understand how the relationship between/among the actors develops. This study found that participation only in the activities across the curriculum process does not ensure a good relationship as in the employers who participate but do not take ownership. In this case, the relationship ensures the successful TVET only when these actors become ready to develop a mutual understanding of roles and responsibilities.

The Essence of the Chapter

In this chapter, I presented some major themes drawing from the findings I discussed in the previous three chapters, which were supported by literature and theoretical references. The lack of understanding between actors within the system and of other systems at macro, meso, and micro further stagnates their relationship. I also discussed the agenda of collaboration, which is neither the priority of educational actors nor employers. In such a situation, I argued that they need to consider each other's existence to strengthen their relationship. Finally, I proposed that developing an understanding of the curriculum process, designing, implementing, and feedback phases would strengthen it. For this, these actors need to be prepared to manage TVET, ready to take roles and responsibilities, meaningfully participate in developing curriculum support, collectively arrange quality teaching-learning processes, and ensure other accompanying measures that support trust in each other. In the final chapter, I present key insights, conclusions, and implications of the study.

CHAPTER VIII

DRAWING UPON: BEGINNING A NEW AVENUE

In this chapter, I reflect on the findings I discussed in previous chapters supported by literature and theoretical references and present my conclusions. This study begins a new avenue for understanding the relationship between actors of education and employment, and, in this chapter, I also indicated a future direction for researchers.

Summary of the Thesis

I began this study by illuminating the study context that a strong relationship between actors of education and employment helps them achieve their goals as well as facilitates attaining each other's goals. However, these actors in Nepal could not develop a good relationship despite regular policy practice. In these settings, in the first chapter, I established the overall research purpose of understanding the relationship between these actors in the curriculum process. In particular, I aimed to broadly understand the relationship between actors of education and employment in Nepal. I formulated three research questions aimed at measuring the education employment relationship in three phases: design, application, and update, understanding the actors' experiences/views of their participation in these processes, and exploring the premises for a strong relationship between them in Nepal.

Reviewing the relationship between education and employment, I explored the education (particularly TVET) and the employment systems, to understand the relationship between these two systems across the curriculum process through a systemic approach. Literature has noted that TVET has become the second option to general education and continues to be a less preferred education in Nepal. Further, the employment system is not being properly aligned with the TVET system. In such a context, I draw on Luhmann's (2013) ideas of systems theory, explain the relationship between the education and employment systems, and show how a structure has its internal environment and also couples with the external environment. However, I also borrowed the idea of Power Theory to explain the power relationship between actors within and outside the system. I also argue that the relationship is influenced by power sharing between the system's actors and the external structure. The decisions are made by those who hold power.

I used sequential mixed methods as my research approach. I collected data in three stages in this study. In the first stage, I surveyed 124 individuals familiar with the

pre-diploma level programme. In the second phase, I conducted group discussions and individual interviews with 15 individuals, mainly drawn from participants who participated in the first survey. Finally, a survey was carried out with 616 respondents, including school principals and employers. I also described how I mitigated the reliability and validity-related issues, satisfying basic assumptions required for developing construct, collecting data, and analyzing it. I also described my commitment to integrity as a researcher that I followed throughout the study, respecting my research participants and their value and following standard guidelines provided by my university.

The calculated index score showed that the actors of the education system have significant roles in the curriculum process in Nepal. The overall calculated score (3.06) shows the participation of employers in the curriculum process near the point where these systems share equal power. Nevertheless, the score obtained is lowest in the design phase (2.7), which was perceived as the most important process by the research participants among other phases. This shows a clear policy practice gap resulting in the poor relationship between the actors. Several reasons were explored to explain the weak relation, which I broadly categorized into five major themes: lack of relevant curriculum, lack of readiness in actors, lack of meaningful roles, lack of quality teaching-learning arrangement, and lack of strong accompanying measures.

Even when employers participate in designing curricula, their participation remains passive and is often ruled by government officials and academicians. Findings also indicated that the relationship between education and employment is not only the supply and demand of workers but is also a social process where they achieve their own goals and support attaining each other's goals. Principal Component Analysis loaded 17 items under five components to develop a good relationship between education and employment.

A good relationship is the outcome of collective efforts; however, readiness of individual actors, institutional arrangements, and regulative aspects (legal and social) influence their relationship equally. The defined roles and responsibilities of employers ensured by accompanying measures for guiding the actors, the labour market-responsive curriculum, readiness of the actors for common ownership to manage TVET, and quality teaching-learning arrangements are components of ensuring a good relationship between the actors in Nepal.

I argued that there is a lack of meaningful participation by employers as they cannot build an understanding with actors in education. Furthermore, there is resistance in these actors to developing a minimum understanding of their shared responsibilities; neither is this agenda their priority. Such a lack of understanding between actors within and outside the system at different levels (macro, meso, and micro) affects their relationship. I argued that both systems have their internal structure and interact with other systems in the external environment. It is also necessary to consider others' existence to harmonize their relationship. For this, the defined role of the actors, market-responsive curriculum, quality teaching-learning, ownership of actors to manage TVET, and ensured accompanying measures are the premises to enhance the relationship.

The actors of education and employment are found to be connected somehow in the curriculum process, and this study also shows that their relationship is gradually improving. Nevertheless, actors of these systems also perceived a policy practice gap in sustaining their relationship. The actors of the education system rule the curriculum process. Furthermore, there is a nexus of power-sharing between the actors at different levels within and outside the system. In this case, the relationship between/among them needs to be understood from a broad political and sociocultural perspective.

Conclusions

A good relationship between the actors of education and employment systems in the curriculum process supports them in developing shared ownership in the activities in which they are engaged. The relationship, however, is also fluid and affected by a country's broader political and sociocultural environment. Nepali society values work more than education as there is weak linkage between them. In this case, the relationship between actors of these systems is weak in Nepal. Particularly, actors in the education system possess the power to make a final decision on curriculum content, implement it, and evaluate the programmes that have been implemented. The contradiction is that policies in Nepal aim to increase the participation of employers; in practice, it is ruled by actors of education. There is a weak mechanism of coordination between relevant actors within the system and with actors of other systems at different levels (micro, meso, and macro levels). In such a context, actors establish a relationship at a personal level, which often results in individual's benefit instead of strengthening the formal relationship in a system.

Several political and socio-cultural reasons impede the relationship between these actors. The foremost is their readiness. There is a lack of shared roles and responsibilities between the actors at different levels, and as such, it excludes the relevant actors from the curriculum process. They do not feel ownership and mistrust each other in such a situation. There is a nexus of power-sharing between actors within and outside with other systems. The actors of these two systems have not considered each other in their structuring process, and developing a good relationship has not become their priority agenda. The low standing of TVET also lowers the priority of collective work among the actors. Lack of active participation of relevant actors in developing market-responsive curricula, arranging quality teaching-learning environments, and ensuring other accompanying measures such as motivation and efficient governing process also amplifies challenges in developing a good relationship between these actors.

There is also resistance among the actors in transitioning from an existing input-oriented, supply-driven governance system to an output-oriented, demand-driven TVET system. The policies governing TVET in Nepal are directed toward an output-oriented system that requires employers' active participation in the curriculum process. However, actors of education do not want to lose the power of decision. Meanwhile, actors in the employment system doubt benefits and rely on information systems to recruit human resources and develop employees' skills.

The relationship enhances the TVET system when the engagement between the actors becomes meaningful and common ownership is developed in all the activities of the curriculum process. Providing a demand-based curriculum is equally important to increase their ownership; however, ensuring quality is equally important to make it more attractive and develop trust among the employers. Furthermore, it is necessary to ensure that these actors get motivated to participate in the process. Engaging them in controlling quality would help to develop trust. Rich data containing information on demand and supply sides also seems helpful, increasing each other's relevancy and thus strengthening their relationship.

Implications of the Study

A framework developed for understanding the relationship between education and employment in TVET in this study has several implications that contribute essential knowledge in areas like the TVET policy, the TVET research field, TVET

theory, and my professional life. In the following paragraphs, I elucidate these implications in detail.

Policy Related Implications

This research would contribute to TVET policy, particularly in strengthening the relationship at three tiers of the government: federal, provincial, and local. The knowledge explored in the study, mainly the lack of shared roles and responsibilities between the actors at different levels, could be an essential takeaway to strengthen their relationship. This implies developing an environment which enhances readiness to share power within the system and consider differences in the other system. Setting a minimum understanding between them in the curriculum process contributes to strengthening their relationship. Though this study was carried out in the schools under CTEVT and employers having formal business/industries, the findings of this study are applicable in the case of Technical Stream in General Schools (TSGS) under CEHRD. These are equally in the case of non-formal training activities and the informal employment sector. A close relationship between the training and formal, informal employment sectors is important. In the present situation, when Nepal is drafting a TVET Act, it is important to consider relationship with employers both formal businesses/industries and the informal occupational sector, which is regarded as a viable means for developing TVET.

In this context, what are the next steps in Nepal's way to an output-oriented TVET system that leverages the relationship? To this end, creating a conducive environment for relevant actors to ensure their meaningful participation in the curriculum process supports strengthening the relationship. However, to make this possible – among others – collaboration between the actors within the system and outside the system at the national and subnational level is necessary. Similarly, actors of education can think about the demands of the employment system. At the same time, actors of the employment system could also consider that their employees get opportunities for academic progress if they like. Furthermore, establishing a formal mechanism of coordination between/among actors, from macro to micro, to ensure their relevant representative in developing the curriculum, implementing it, and updating it on time supports to formalize the relationship. This also helps to build a minimum understanding between the actors, particularly those who do not trust each other, to engage and develop a social partnership. The strong partnership will help to equip vocational schools with workshops, which can also be attractive for small

enterprises. The roles of all tiers of government, most importantly, creating a win-win situation and developing trust between actors of education and employment, will support the establishment of a good relationship. This is not only an advantage for developing an understanding among these actors but also is an effort to increase the image of TVET among the social partners.

Theoretical and Knowledge Implications

The research has both theoretical and knowledge implications. First, it contributes to an enhanced understanding of why the relationship between the education and employment system is weak and explores the premises contributing to strengthening it. Similarly, the improved education employment collaboration presented, as a gist of the research, illustrates that the relationship between actors of education and employment is also a social process, and it needs to be understood in a broader socio-cultural environment. The legal provision does not imply these actors have engaged in their collective work, as in this study, a minimal relationship is established and even gradually increases, but in practice, they lack trust in each other. In this case, an ideal state of relationship is where these actors create an understanding of developing curriculum, implement it, and update it in a timely way. Understanding is the win-win situation between the actors within the system and outside with other systems (s). The relationship between the actors of these two systems in Nepal, functioning and defuncting across history, along with changes in the polity, will continue. In this case, the relationship should not be understood as static but as a fluid one that changes continuously.

Research Implications

In this study, I assessed the relationship between education and employment and explored its barriers and drivers. Further research can test whether these perceived components of enhancing a good relationship, particularly premises, enable the connection in other contexts. Similarly, the research has also indicated other study areas and topics relevant to understanding the relationship between actors of education and employment. Following are some other questions that future research can focus on:

- How does the relationship between actors of education and employment function in informal sectors?
- How does their relationship differ across the sectors?

- How does the education employment relationship support students transitioning from the world of education to the world of work?
- How does local government play a role in interfacing actors of education and employment?
- How is the education employment relationship affected in the rapidly changing technological context?

Besides enhancing my knowledge, policy, and research, this study also contributed to my professional career. I was a novice researcher in the TVET sector, and I could develop my access to local as well as global TVET community. During this PhD journey, I learned different practices of education employment relationship and how a good relationship is a benefit, particularly in developing a learning environment for youth that is considered to support transit from the world of education to the world of work. I am more concerned with the existing gap between the education and employment systems and am committed to linking them with the formal education sector. More specifically, my commitment would be advocating for youth who earn the qualification but are unable to get employed. Moreover, my commitment would also be to strengthen the relationship at all levels, macro, meso, and micro, for overall TVET development in Nepal. In the following sections, I reflect on my academic journey.

My Reflection on PhD Journey

I was born into a middle-class family and grew up in a rural area seeking liberation from agriculture, though it was our day-to-day reality. My family used to orient my education as the only means one would come out from the hardship of agriculture in the village. Although engaging myself in the field for farming was a regular chore after or before school time, studying in school was something different that would liberate me from those agricultural works. I could receive basic education (up to grade 8) in the school only in nearby my village. For further education, I walked four hours daily during secondary school (Grades 9 & 10). When I was only 15 years old, I had to leave my parents for higher education, which was only available at the district headquarters. The white colour job was a dream which often motivated all these hardships.

Gradually, I came to know the education I was attaining was making me eligible only for applying for a job but not ensuring employment. Furthermore, I knew I had to study additional courses if I wished to apply for government-related

permanent jobs. Although I earned the qualifications, I could not return to my village and make some innovations in my farming, which was also humiliating after I graduated from university, nor ensured that I could get employed in a white-collar job.

My interest grew to know why education in Nepal is not aligned with employment. Why do youth like me remain without employable skills even after university graduation? I wrote a reflective paper 2016 on *Does my qualification support my livelihood?* (Paudel, 2016). Furthermore, my interest continued to understand the employment situation of Nepali youth, and as a part of my MPhil study, I studied Nepali labour migrants who go to Gulf countries and Malaysia. Foreign labour migration has become an alternative employment sector for Nepali youth when they fail to get employed in their home country (Bhattarai & Paudel, 2020). I explored that education had hardly any relationship with getting better employment abroad.

My PhD journey attempts to understand the dynamic, particularly the relationship between education and employment in Nepal. I proposed to explore relationship between education and employment as my research project for my PhD study so that I could reflect on both the education and employment systems that I perceived in my life and could differentiate them from the practice. TVET sector, which I chose for deepening my study, provided me with a closer look to understand the relationship between education and employment. Now, I have realised that I was also developing occupational skills along with general education; however, I was taught to become an employee with general knowledge. Several thousands youth in Nepal go through my situation, and TVET can enhance their career paths. Entrepreneurial skills which connect education with day-to-day chores could be helpful for a child to develop as an employer, unlike me, who is always encouraged to become an employee.

My PhD also had some joyful moments that motivated me to accomplish my journey. Both the supervisors remained as guardians with whom I felt every meeting was interesting. Their unconditional, continuous support was a strong pillar that made me stand along the journey. The opportunities to interact with the wider TVET stakeholders provided by the LELAM project were a great source of learning and introducing me as a TVET scholar. PhD workshop and visit to ETH as an academic guest also remained memorable moments during the study.

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ANNEXURES

Annexure I: Scale for the Education Employment Linkage survey

उप चरणहरू	प्रश्नहरू	इन्डेक्सका मापन
बजेट बिनियोजन प्रकृत्या	कृपया पाठ्यक्रम मूल्य श्रृङ्खलाको चरणहरूमा १०० % मध्ये कति कति भार दिनु उपयुक्त हुन्छ बाँड्नुहोस्	पाठ्यक्रम निर्माण चरण पाठ्यक्रम प्रयोग चरण पाठ्यक्रम पृष्ठपोषण चरण
पाठ्यक्रम निर्माण चरण		
व्यक्तिपरक मूल्याङ्कन	प्रा. ब्या. शि. ता. को पाठ्यक्रम तयार पार्दा कम्पनीहरू/रोजगारदातृ संघ- संगठनहरूको भूमिका कति हुन्छ?	तिनिहरूको कुनै भूमिका हुदैन तिनिहरूको कमै भूमिका हुन्छ तिनिहरूको मध्यम भूमिका हुन्छ तिनिहरूको समान भूमिका हुन्छ तिनिहरूको उल्लेख्य भूमिका हुन्छ तिनिहरूको सवैभन्दा बढी भूमिका हुन्छ सम्पूर्ण भूमिका उनिहरूको नै हुन्छ
बस्तुपरक मूल्याङ्कन योग्यता स्तर निर्धारणमा संलग्नता	के कम्पनीहरू/रोजगारदातृ संघ- संगठनहरू योग्यता स्तर निर्धारणमा संलग्न हुन्छन्?	कम्पनी/रोजगारदातृ संघ-संगठनहरू संलग्न हुदैनन कम्पनी/रोजगारदातृ संघ-संगठनहरू केही हदसम्म संलग्न हुन्छन् कम्पनी/रोजगारदातृ संघ-संगठनहरू समान साझेदारको रूपमा संलग्न हुन्छन् कम्पनी/रोजगारदातृ संघ-संगठनहरू मुख्य पात्र हुन कम्पनी/रोजगारदातृ संघ-संगठनहरू मात्र पात्र हुन
योग्यता स्तर निर्धारणमा निर्णय भूमिका	के कम्पनीहरू/रोजगारदातृ संघ- संगठनहरू योग्यता स्तरको अन्तिम निर्णयका वेला संलग्न हुन्छन्?	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग कुनै भूमिका हुदैन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग केही भूमिका हुन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग समान भूमिका हुन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग धेरै भूमिका हुन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग सवै भूमिका हुन्छ
परीक्षा प्रकार/स्वरूप: सङ्लग्नता	के कम्पनीहरू/रोजगारदातृ संघ- संगठनहरू परीक्षा स्वरूप तयार पार्न सङ्लग्न हुन्छन्?	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूको संलग्नता हुदैन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूको केही हद संलग्नता हुन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूको समान साझेदारीका रूपमा संलग्न हुन्छन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूको मुख्य पात्रहरू हुन

		कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूको मात्र पात्रहरू हुन
परीक्षा प्रकार/स्वरूप: निर्णय भूमिका	के कम्पनीहरू/रोजगारदातृ संघ-संगठनहरू लाई परीक्षाको प्रकार बारे अन्तिम निर्णय गर्ने भूमिका हुन्छ?	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग कुनै भूमिका हुदैन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग केही भूमिका हुन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग समान भूमिका हुन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग धेरै भूमिका हुन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसंग सबै भूमिका हुन्छ
सङ्गठनता अवस्था क्यारियर – पेशा – राजगारी	प्रा. ब्या. शि. ता. को अध्यापनकोमुख्य लक्ष्य के हो?	विद्यार्थीहरूलाई कार्यक्षेत्रका लागि तयार पार्ने (पेशागत तयारी) विद्यार्थीहरूलाई तालिम लिएको कम्पनीहरूमा कार्य निरन्तरताका लागि तयार पार्ने विद्यार्थीहरूलाई तालिम लिएकै पेशा कुनै कम्पनीमा गर्नका लागि तयार पार्ने
कम्पनीहरू - रोजगारदातृ संघ-संगठनहरू	शिक्षा तथा रोजगार सम्बन्धी विषयको पाठ्यक्रम निर्माण चरणमा रोजगारदाता कसरी संलग्न हुन्छन् ?	कम्पनीहरू पाठ्यक्रम निर्माणमा प्रत्यक्ष रूपमा संलग्न हुन्छन् पाठ्यक्रम निर्माणमा रोजगारदातृ संघसंगठनले कम्पनीहरूको प्रतिनिधित्व गर्दछन पाठ्यक्रम निर्माणमा कम्पनीहरू आफै र रोजगारदातृ संघसंगठन मार्फत पनि संलग्न हुन्छन् हुन्छन्
सहभागिताको कानुनी व्यवस्था	के कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूको शिक्षा तथा रोजगार सम्बन्धी विषयको पाठ्यक्रम निर्माण सम्वन्धि कानुनी व्यवस्था छ?	छैन, कानुनले सहभागिता र जिम्मेवारी बारे कुनै व्यवस्था गरेको छैन छ, कानुनले सहभागिताको व्यवस्था गरेको छ तर कसरी भन्ने स्पष्ट छैन छ, कानुनले सहभागिताको व्यवस्था गरेको छ जस्तो की कम्पनीहरू निश्चित प्रकृयाहरूमा संलग्न हुनुपर्ने व्यवस्था छ तर भूमिका बारे स्पष्ट छैन छ, कानुनले सहभागितालाई पूर्ण रूपमा स्पष्ट पारेको छ जस्तो कि कहिले र कसरी कम्पनीहरू संलग्न हुने भन्ने स्पष्ट व्यवस्था छ
रोजगारदाताको प्रतिनिधित्व	नेपालमा कति जति कम्पनीहरू शिक्षा तथा रोजगार सम्बन्धी विषयको पाठ्यक्रम निर्माण गर्दा आफै वा रोजगारदातृ संघ-संगठन मार्फत सहभागी हुन्छन्?	संलग्न भएका कम्पनीहरू/रोजगारदातृ संघ-संगठनले कम्पनीहरूको सानो अंशलाई मात्र प्रतिनिधित्व गर्दछन संलग्न भएका कम्पनीहरू/रोजगारदातृ संघ-संगठनले कम्पनीहरूको आधा जति कम्पनीहरूलाई प्रतिनिधित्व गर्दछन संलग्न भएका कम्पनीहरू/रोजगारदातृ संघ-संगठनले कम्पनीहरूको धेरै जसो कम्पनीहरूलाई प्रतिनिधित्व गर्दछन

		संलग्न भएका कम्पनीहरू/रोजगारदातृ संघ-संगठनले कम्पनीहरूको सवै कम्पनीहरूलाई प्रतिनिधित्व गर्दछन
पाठ्यक्रम कार्यान्वयन चरण		
व्यक्तिपरक मूल्याङ्कन	समग्रमा शिक्षा तथा रोजगारी सम्बन्धी विषयको पाठ्यक्रम कार्यान्वयन चरणमा कम्पनीहरू वा रोजगारदातृ संघ-संगठनहरूको कति भूमिका हुन्छ?	तिनिहरूको कुनै भूमिका हुदैन तिनिहरूको थोरै भूमिका हुन्छ तिनिहरूको केही भूमिका हुन्छ तिनिहरूको समान भूमिका राख्दछन तिनिहरूको धेरै भूमिका हुन्छ तिनिहरूको झण्डै सम्पूर्ण भूमिका हुन्छ तिनिहरूको सम्पूर्ण भूमिका हुन्छ
बस्तुपरक मूल्याङ्कन <u>सिकाइ स्थान</u> कक्षाकोठा शिक्षण कार्यक्षेत्रको <u>सिकाइ</u>	के शिक्षा तथा रोजगार सम्बन्धी विषयको अध्यापन कार्यक्रमले दुबै कक्षाकोठाको शिक्षण र कार्यक्षेत्रको तालिमलाई संयोजन गर्दछ?	छैन, शिक्षा तथा रोजगार सम्बन्धी विषयको अध्यापन कार्यक्रममा कक्षाकोठाको शिक्षण मात्र छ छ, शिक्षा तथा रोजगार सम्बन्धी विषयको अध्यापन ले दुवै कक्षाकोठाको शिक्षण र कार्यक्षेत्रको तालिमलाई समेटेको छ छैन, शिक्षा तथा रोजगार सम्बन्धी विषयको अध्यापन कार्यक्रममा कार्यक्षेत्रको तालिम मात्र छ
प्रयोगत्मक <u>सिकाइ</u> कार्यक्षेत्रको <u>सिकाइ नभएमा</u>	शिक्षा तथा रोजगार सम्बन्धी विषयको अध्यापन कार्यमा कक्षाकोठाको शिक्षण र कार्यक्षेत्रको तालिम विचमा समयको बाँडफाड बारे केही कानुनी व्यवस्था छ	छैन, कानुनले समयको कुनै बाँडफाड गरेको छैन छ, कानुनले समग्रमा समयको बाँडफाड गरेको छ छ, कानुनले एकदमै सडकुचित रूपमा छुट्याएको छ छ, कानुनले स्पष्ट रूपमा समयलाई छुट्याएको छ
	सामान्यतया शिक्षा तथा रोजगार सम्बन्धी विषयको अध्यापन कार्यमा कक्षाकोठाको शिक्षण र कार्यक्षेत्रको तालिममा औसतमा कति समय खर्च गरिन्छ?	विद्यार्थीहरूले कार्य क्षेत्र तालिममा कति पनि समय विताउँदैनन र सवै समय कक्षाकोठा शिक्षामा विताउँदछन विद्यार्थीहरूले केही समय कार्यक्षेत्रको तालिममा विताउँछन् तर धेरै जसो समय कक्षाकोठामा शिक्षामा विताउँदछन विद्यार्थीहरूले आधा समय कार्यक्षेत्रको तालिममा विताउँछन र बाँकी आधा समय कक्षाकोठामा शिक्षामा विताउँदछन विद्यार्थीहरूले सवै समय कार्यक्षेत्रको तालिममा विताउँदछन भने कक्षाकोठामा शिक्षामा कुनै समय पनि विताउँदैनन
	शिक्षा तथा रोजगार सम्बन्धी विषयको अध्यापन गराउँदा कक्षाकोठाको शिक्षणमा साधारण शिक्षा र व्यावसायिकतायुक्त व्यावसायिकशिक्षालाई करिव कति भाग छुट्याइएको छ?	कक्षाकोठाको शिक्षण पूर्णतया साधारण शिक्षामा आधारित छ र यो व्यवसायमुलक छैन कक्षाकोठाको शिक्षण प्राय सवै साधारण शिक्षामा आधारित छ र यो व्यावसायिक भने आंशिक मात्र छ कक्षाकोठाको शिक्षण आधा साधारण छ र बाँकी आधा व्यावसायिकयुक्त छ कक्षाकोठाको शिक्षण आंशिक साधारण छ र प्राय व्यावसायिक छ

		कक्षाकोठाको शिक्षणको विषयवस्तु साधारण छैन तर सबै व्यावसायिक छ
<u>कार्यक्षेत्र नियम</u>	के विद्यार्थीका अधिकारहरू कार्य सम्झौतामा उल्लेख गरिएका छन्?	छैन छ
	कार्यक्षेत्रको तालिमका लागि त्यस्तो कुनै पाठ्यक्रम/तालिम योजना/पाठ्यांस छ?	छैन छ
	के कार्यक्षेत्रको तालिममा पाठ्यक्रम/तालिम योजना/पाठ्यांस लागु गरिएको छ?	छैन, केही गरिएको छैन छ, थोरै गरिएको छ छ, केही मात्रामा गरिएको छ छ, धेरैजसो गरिएको छ छ, पूर्णतया गरिएको छ
	के कम्पनीहरूले कार्यक्षेत्रको तालिमका लागि कानुनी रूपमा विशेष प्रशिक्षकहरू राख्न जरुरी छ?	छैन छ
	के विद्यार्थी प्रशिक्षक अनुपात कानुनी रूपमा व्यवस्था गरिएको छ?	छैन छ
	के कम्पनीहरूका प्रशिक्षकहरूले कानुनी रूपमा विशेष तालिम लिन जरुरी छ?	छैन छ
	: के कम्पनीहरूका प्रशिक्षकहरूले कानुनी रूपमा ज्ञान/शिपहरूलाई अध्यावधिक गर्नुपर्छ?	छैन छ
<u>खर्च साझेदारी</u>	कक्षाकोठाको शिक्षणका लागि कक्षाकोठाको शिक्षणको खर्च कस्ले व्यहोर्छ?	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले कुनै खर्च व्यहोर्दैनन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले केहि खर्च व्यहोर्छन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले आधा जति खर्च व्यहोर्छन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले धेरै जसो खर्च व्यहोर्छन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले सबै खर्च व्यहोर्छन्
	कार्यक्षेत्र तालिमका लागि कार्यक्षेत्रको तालिमको खर्च (उदाहरणका लागि: औजार, तालिम सामग्रीहरू, प्रशिक्षकको तालिम, विद्यार्थीको तलव) कस्ले व्यहोर्दछ?	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले कुनै खर्च व्यहोर्दैनन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले केहि खर्च व्यहोर्छन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले आधा जति खर्च व्यहोर्छन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले धेरै जसो खर्च व्यहोर्छन्

		कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले सबै खर्च व्यहोर्छन्
<u>औजार बारे व्यवस्था</u>	के कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले शिक्षा तथा रोजगार सम्बन्धी विषयको अध्यापन कार्यक्रम सञ्चालन गर्दा कक्षाकोठाको शिक्षणका लागि औजारहरू उपलब्ध गराउदछ?	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले औजार दिदैन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले केही औजार दिन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले आधाजति औजार दिन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले धेरैजसो औजार दिन्छ कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले सबै औजार दिन्छ
	के उपलब्ध गराइएका औजारहरू ठिकठाक (के ति पछिल्लो समय उत्पादीन आधुनिक) हुन्छन्?	उनिहरूले दिने औजार असाध्यै पुरानो हुन्छ उनिहरूले दिने औजार प्राय मिति गुज्रेका हुन्छ उनिहरूले दिने औजार अलि पुरानो हुन्छ उनिहरूले दिने औजार झण्डै मिति गुञ्जिन लागेका हुन्छ उनिहरूले दिने औजार ठिकठाक हुन्छ
<u>प्रशिक्षक व्यवस्था</u>	के कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले शिक्षा तथा रोजगारी सम्बन्धी कार्यक्रममा कक्षाकोठाको शिक्षणका लागि आंशिक शिक्षक उपलब्ध गराउदछन?	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले शिक्षकहरू उपलब्ध गराउदैनन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले कहिलेकाही शिक्षकहरू उपलब्ध गराउदछन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले आधाजति शिक्षक उपलब्ध गराउदछन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले धेरैजसो शिक्षक उपलब्ध गराउदछन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले सबै शिक्षक उपलब्ध गराउदछन
	के कम्पनीहरूले उपलब्ध गराएका कक्षाकोठा शिक्षकहरूले कानुनी रूपमा विशेष तालिम लिन जरुरी छ?	छैन छ
	के कम्पनीहरूले उपलब्ध गराएका कक्षाकोठा शिक्षकहरूले निरन्तर आफ्नो ज्ञान/सिपहरू अध्यावधिक कानुनी रूपमा गर्न जरुरी छ?	छैन छ
<u>कम्पनीहरूको संलग्नता</u>	के कम्पनीहरू/रोजगारदातृ संघ-संगठनहरू कार्यस्थलको अवलोकनलाई सार्थक बनाउन (Job Shadowing) संलग्न हुन्छ?	छैन, कम्पनीहरू/रोजगारदातृ संघ-संगठन संलग्न छैनन् छन, कम्पनीहरू/रोजगारदातृ संघ-संगठन संलग्न छन्
	करिव कति विद्यार्थीले कार्यस्थलको अवलोकन र रोजगारी (shadowing) पाउदछन्	थोरै विद्यार्थीले मात्र क्षेत्र भ्रमण अथवा रोजगारी गर्दछन/पाउदछन् करिव आधाजति विद्यार्थीहरू क्षेत्र भ्रमण अथवा रोजगारी प्राप्त गर्दछन्

		धेरै विद्यार्थीहरू क्षेत्र भ्रमण अथवा रोजगारी प्राप्त गर्दछन् सवै विद्यार्थीहरू क्षेत्र भ्रमण अथवा रोजगारी प्राप्त गर्दछन्
	के कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले विद्यार्थीहरूलाई कामसम्बन्धी सूचना प्रदान गर्दछन्?	छैन, तिनीहरू कुनै किसिमले संलग्न हुदैनन् हो, तिनीहरू थोरै संलग्न भएका हुन्छन् हो, तिनीहरू केहि हद सम्म संलग्न भएका हुन्छन् हो, तिनीहरू राम्रैसँग सम्म संलग्न भएका हुन्छन् हो, तिनीहरू नै त्यस्ताखाले सूचनाका स्रोत हुन्
<u>परीक्षा</u>	के परीक्षाहरूमा प्रयोगात्मक परीक्षा समावेश गरिन्छ?	छैन, परीक्षाहरू पूर्ण रूपमा सैद्धान्तिक हुन्छन् हो, परीक्षाहरूमा प्रयोगात्मक पनि समावेश हुन्छ
	प्रयोगात्मक परीक्षाले अन्तिम नतिजालाई कतिको निर्धारण गर्दछ?	प्रयोगात्मक परीक्षाले कुनै किसिमको निर्धारण गरेको हुदैन प्रयोगात्मक परीक्षाले केहि हदसम्म निर्धारण गर्दछ करिव आधा जति प्रयोगात्मक परीक्षाले निर्धारण गर्दछ धेरैजसो प्रयोगात्मक परीक्षाले नै निर्धारण गर्दछ तिनीहरू पूर्णरूपमा परीक्षाको प्रयोगात्मक भागले निर्धारण हुन्छन्
	परीक्षाको प्रयोगात्मक भाग कहाँ गरिन्छ?	स्कूलहरू/तालिमकेन्द्रहरूमा मात्र दुवै ठाँउहरू कार्यक्षेत्र र स्कूल/तालिम केन्द्रहरूमा कार्यक्षेत्रहरूमा मात्र
	परीक्षाको प्रयोगात्मक भागले कार्यक्षेत्रमा हुने परीक्षामा कति श्रेणी निर्धारण गर्दछ?	कार्यक्षेत्रमा कुनै किसिमको प्रयोगात्मक परीक्षा श्रेणी परिक्षण गरिदैन कार्यक्षेत्रमा केहि प्रयोगात्मक परीक्षाहरूको श्रेणी परिक्षण गरिन्छ कार्यक्षेत्रमा आधाजति प्रयोगात्मक परीक्षाहरूको श्रेणी परिक्षण गरिन्छ कार्यक्षेत्रमा धेरैजसो प्रयोगात्मक परीक्षाहरूको श्रेणी परिक्षण गरिन्छ कार्यक्षेत्रमा सवै प्रयोगात्मक परीक्षाहरूको श्रेणी परिक्षण गरिन्छ
	के सिकाइ स्थान भन्दा बाहिर (जस्तै राज्यका विभिन्न अड्डाहरू, प्रदेशस्तरीय आयोगहरू) का विशेषज्ञहरूले परीक्षा निरीक्षण वा व्यवस्थापन गर्ने गर्दछन्?	गर्दैनन् गर्दछन्
	के कम्पनीहरू/रोजगारदातृ निकायहरूले परीक्षाको प्रयोगात्मक भागलाई मूल्याङ्कन गर्न विशेषज्ञ उपलब्ध गराउदछन्?	गराउदैनन् गराउदछन्
	परीक्षाको प्रयोगात्मक भागमा कम्पनीहरू/रोजगारदातृ संघ-संगठनले विशेषज्ञ उपलब्ध गराउदछन्	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले केही विशेषज्ञ उपलब्ध गराउदछन्

	उपलब्ध गराउने विशेषज्ञहरू कति हुन्छन्?	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले करिव आधा जति विशेषज्ञ उपलब्ध गराउदछन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले धेरै जसो विशेषज्ञ उपलब्ध गराउदछन कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूले सबै विशेषज्ञ उपलब्ध गराउदछन
पाठ्यक्रम पृष्ठपोषण चरण		
	समग्रमा कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूको कसरी र कहीले पाठ्यक्रम अद्यावधिक गर्नेमा कतिको भूमिका हुन्छ?	उनिहरूको कुनै भूमिका हुदैन उनिहरूको एकदमै थोरै भूमिका हुन्छ उनिहरूको केही भूमिका हुन्छ उनिहरूको बराबर भूमिका हुन्छ धेरै जसो भूमिका अनिहरूको हुन्छ झण्डै सबै भूमिका अनिहरूको हुन्छ सम्पूर्ण भूमिका अनिहरूको हुन्छ
<u>सूचना संकलन</u>	: शिक्षा तथा रोजगार सम्बन्धी कार्यक्रमबाट दिक्षितहरूले कार्यक्षेत्रमा कस्तो प्रदर्शन गर्दछन् भनी रोजगारदातालाई सर्वेक्षण गर्ने गरिएको छ?	छैनन् छन्
	के शिक्षा तथा रोजगार सम्बन्धी कार्यक्रमबाट दिक्षितहरूको श्रम बजारमा अवस्था बारे श्रम सर्वेक्षण भएको छ?	छैनन् छन्
<u>अद्यावधिक समय</u>	के कम्पनीहरू/रोजगारदातृ संघ/संगठनहरू शिक्षा तथा रोजगार सम्बन्धी कार्यक्रमका विषयको पाठ्यक्रम अद्यावधिक गर्न जरुरी छ भनि निर्णय गर्न संलग्न हुन्छन्?	हुदैन हुन्छन्
	अद्यावधिक जरुरी छ भनि निर्णय गर्न कम्पनीहरू/रोजगारदातृ संघ-संगठन कति संलग्न हुन्छन्?	कम्पनीहरू/रोजगारदातृ संघ-संगठनहरू केहि मात्रामा संलग्न हुन्छन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूसमान साझेदारको रूपमा संलग्न हुन्छन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरू मुख्य कर्ता हुन् कम्पनीहरू/रोजगारदातृ संघ-संगठनहरूमात्रकर्ता हुन्
	के कानुनले कम्पनीहरू/रोजगारदातृ संघ-संगठनहरू अद्यावधिक आवश्यक छ भनि निर्णय गर्दा संलग्न हुनुपर्ने व्यवस्था गरेको छ? यदि छ भने	छैन कानुनमा सहभागिता सम्बन्धि अधिकारको व्यवस्था छैन छ कानुनले सहभागिता आवश्यक भनेको छ तर कसरी भन्ने छैन छ कानुनमा सहभागिता सम्बन्धि बृहत्तर व्यवस्था छ छ कानुनमा सहभागिता सम्बन्धि स्पष्ट व्यवस्था छ

Annexure II: A Case Study Protocol

Study Title: *Technical and Vocational Education and Training and its Relationship to Employment in Nepal: A Mixed Methods Study*

This study set following study purpose

The overall purpose of the study was to assess the relationship between education and employment in the TVET system in Nepal. Specifically, the study assesses the level of their engagement, explains the reasons for weak relationship and explores the its drivers in Nepal

This study formulated following research questions

1. What is the level of engagement between TVET providers and employers in the whole curriculum process – development, implementation, and feedback – in Nepal?
2. How do they explain the relationship between them?
3. What factors predict their relationship?

Some presumptions during the study

Relationship between actors of education and employment is necessary for successful TVET system

Relationship between actors of education and employment in Nepal is weak

There are process related (curriculum) causes for weak relationship

There are socio-cultural related causes for weak relationship

Relationship would increase if these actors take common ownership in the curriculum process

Annexure III: Questionnaire for survey with principal and employer

आदरणीय सर/मेडम,

नमस्कार, मेरो नाम प्रकास कुमार पौडेल हो । हाल म काठमाडौं विश्वविद्यालयबाट विद्यावारिधि गर्दै छु । मेरो अनुसन्धानको विषय प्राविधिक तथा ब्यवसायिक शिक्षा र तालिम प्रदायक र रोजगारदाता बीच हुने सहकार्य बारेमा हो । अनुसन्धानको मुख्य उदेश्य के भएमा शिक्षा प्रदायक र रोजगारदाताहरू बीचको सम्बन्ध वढी सुमधुर हुन्छ भनि खोज गर्नु हो । यस अध्ययनमा शिक्षा—प्रदायक भन्नाले CTEVT अन्तर्गतका प्राविधिक शिक्षा प्रदायक संस्थाहरू (प्राविधिक शिक्षालय) र रोजगारदाताहरू जसले प्राविधिक शिक्षा पढ्दै गरेका बिद्यार्थीहरूलाई कार्य स्थलमा हुने सिकाईका लागि सहजिकरण र उत्तिर्णहरूलाई रोजगारीको अवसर प्रदान गर्छन भन्ने वुझिन्छ । सम्बन्ध भन्नाले शिक्षा प्रदायक र रोजगारदाताहरू बीचहुने सहकार्य (जस्तै पाठ्यक्रम तयारगर्दा सहभागीता, OJT/Internship/Apprenticeship मा सहजिकरण, बिद्यार्थी हरुको कार्य मुल्याङ्कन वा सुझाव दिन र अन्य)भन्ने वुझिन्छ । यहाँलाई यस अनुसन्धानको लागि बिज्ञको रुपमा छनौट गरेको छु । कृपया उत्तर दिदा आफुलाई सवैभन्दा उत्तम लाग्ने विकल्पमा चिन्ह लगाई दिनु होला । यहाँले प्रदान गर्नुहुने जानकारी यस अध्ययनका लागि निकै महत्वपूर्ण हुनेछ । यहाँका उत्तरहरू अत्यन्तै गोप्य राखिनेछ साथै उच्चमूल्याङ्कन र कदर गरी शैक्षिक अनुसन्धानकालागि मात्र प्रयोग गरिनेछ ।

रोजगारदाताकालागि मात्र

- नाम
- रोजगारदाताको प्रकार: निजि एकल निजि साझेदारी सरकारी सार्वजनिक निजि साझेदारी अन्य
- उद्योग/ब्यवसायको क्षेत्र इन्जिनियरिङ पर्यटन तथा आतिथय कृषि अन्य भए खुला अनुहोस.....

प्रधानाध्यापककालागि मात्र

- नाम
- स्कूलको प्रकार: आङ्गिक साझेदारी टेक्स (TECS) निजि
- हाल संचालनमा रहेका कार्यक्रमका क्षेत्र: इन्जिनियरिङ पर्यटन तथा आतिथय कृषि अन्य भए खुला अनुहोस.....

निम्न प्रक्रिया/अवस्था र समयले नेपालमा प्राविधिक शिक्षालय र रोजगारदाताहरू बीच मजवुत सम्बन्ध गराउन मद्दत गर्छ ।

तलका प्रत्येक प्रश्नहरूमा पूर्ण असहमत देखि पूर्ण सहमत सम्म विकल्प छन। तपाईंको अभिव्यक्तिलाई उपयुक्त हुनेगरी चिन्ह लगाउनुहोसा					
४. रोजगारदातालाई प्राविधिक शिक्षालयसंग सहकार्य गर्न जरूरी भएमा (जस्तै, शिपयुक्त दक्ष जनशक्ति चाहिएमा)	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत

५. प्राविधिक शिक्षालय र रोजगारदाता लाई सहकार्य गर्दा फाईदा हुन्छ भन्ने लागेमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
६.सहकार्यका लागि प्राविधिक शिक्षालय र रोजगारदाता दुबै तयार भएमा (जस्तै, औपचारिकरूपमै लिखित सम्झौता भएमा)	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
७. सहकार्यका लागि रोजगारदाता र प्राविधिक शिक्षालयको काम र कर्तव्यहरु कानुनी रूपमै (जस्तै, ऐन, निर्देशिका) हुने व्यवस्था भए	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
८. रोजगारदाताहरुले सामाजिक उत्तरदायित्व (Corporate Social Responsibility) बहन गर्न चाहेमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
९. सहकार्य गर्दा प्रशासनिक सहजता भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
१०. विद्यार्थीहरुलाई कार्यस्थल सिकाईमा योगदानगरे बापत् रोजगारदाताहरुले सरकारी राजश्व (कर) छुट पाएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
११. रोजगारदाता र प्राविधिक शिक्षालय दुवै सहकार्यका लागि गरेका आफ्ना प्रतिवद्धतामा जवाफदेहि भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
१२. सरकारले रोजगारदाता र प्राविधिक शिक्षालयविच सहकार्य गर्नकालागि प्रोत्साहन गरेमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
१३. रोजगारदाता र प्राविधिक शिक्षालयविच निरन्तर औपचारिक सम्पर्कलाइ सहजिकरण गर्ने परिपाटी भए	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
१४. रोजगारदाता र प्राविधिक शिक्षालयविच समय – समयमा अनौपचारिक सम्पर्क भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
१५. रोजगारदाता र प्राविधिक शिक्षालयको नेतृत्वमा रहेकाव्यक्तिहरुको राजनीतिक आस्था मेल खाएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
१६. आई परेका बेला एकअर्कामा सहयोगको आदान प्रदान भएमा परिपाटी भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
१७. रोजगारदाताहरु प्राविधिक शिक्षालयको नियमित कार्यक्रमहरुमा सहभागी भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
१८. प्राविधिक शिक्षालयले प्रदानगर्ने शिक्षा गुणस्तरीय भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
१९. प्राविधिक शिक्षालयको नेतृत्व, रोजगारदाता र प्राविधिक शिक्षालय विच हुने सहकार्यका लागि अग्रसर भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
२०. प्राविधिक शिक्षा तथा व्यावसायिक तालिमले उपयुक्त सामाजिक मान्यता पाएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
२१. पेशागत रूपमा क्षेत्रगत सीप समितिहरु (Sector Skill Committee) गठन भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
२३. पाठ्यक्रम निर्माणगर्दा चिनजानका मात्र नभै संबन्धित क्षेत्रका रोजगारदाताहरुको प्रतिनिधित्व हुने गरी छनोट भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत

२४. पाठ्यक्रम निर्माण गर्दा रोजगारदाताहरूको अर्थपूर्ण सहभागिता भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
२५. रोजगारदाताहरूको माग अनुसार पाठ्यक्रमहरू तयार भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
२६. केन्द्रिकृत मात्र नभई स्थानीय स्तरमा नै पाठ्यक्रम निर्माण गर्ने व्यवस्था भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
२७. विद्यार्थी भर्ना प्रकृत्यामा रोजगारदाताहरूको समेत सहभागिता भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
२८. पुर्वाधार युक्त प्राविधिक शिक्षालयमा पठन पाठन भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
२९. रोजगारदाताहरूले प्राविधिक शिक्षालयमा पुर्वाधार निर्माण गर्न सहयोग गरेमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३०. कार्यस्थलमा हुने सिकाई (जस्तै, OJT/Internship/Apprenticeship) व्यवस्थित भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३१. उद्योग वा व्यवसायमा कार्यरत अनुभवी जनशक्तिहरू प्रशिक्षणमा सहभागी हुने व्यवस्था भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३२. उद्योग व्यवसायका अनुभवी जनशक्तिले विद्यार्थीलाई सीप सिकाउन तयार भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३३. प्राविधिक शिक्षालयमा प्रशिक्षकहरूको छनोट गर्दा रोजगारदाताहरूको पनि भुमीका रहेमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३४. रोजगारदाताहरूको सीप विकास (तालिम) सम्बन्धी कार्ययोजना हुनेपनि व्यवस्था भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३५. रोजगारदाताहरूले औपचारिक रूपमै (जस्तै, विज्ञापनवाट, लिखित सम्झौता गरेर) जनशक्तिको व्यवस्थापन गर्नुपर्ने परिपाटी भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३६. परीक्षा सम्बन्धी प्रक्रियाहरूमा रोजगारदाताहरूको समेत अर्थपूर्ण संलग्नता भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३७. श्रमवजारको अध्यावधिक सूचना तथा तथ्याङ्कको उपलब्धता हुने व्यवस्था भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३८. नियमित रूपमा रोजगार मेलाको आयोजना भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
३९. पाठ्यक्रमहरू नियमितर समयमै परिमार्जन (अद्यावधिक) भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत
४०. शिक्षण सिकाइको कार्यक्रम अनुगमन तथा मुल्याङ्कन गर्दा रोजगारदाताहरू पनि सहभागि भएमा	पूर्ण असहमत	असहमत	तटस्थ	सहमत	पूर्ण सहमत

यहाँको अमूल्य समय र सहयोगका लागि धन्यवाद !

Annexure IV: Study Participants/Respondents

Respondents in First Survey

Category of variables	Frequency	Percentage
Gender		
<i>Female</i>	9	7.2
<i>Male</i>	115	92.7
Institutional position		
<i>Director</i>	5	4.0
<i>Officers</i>	9	7.3
<i>Principals</i>	32	25.8
<i>Coordinator</i>	24	19.4
<i>Instructor</i>	22	17.7
<i>Employers</i>	32	25.8

Participants in Qualitative interview

Sn.	Respondents	Gender	Age	Experience	Affiliation	Position
1.	Sanam	M	50	>10 years	Employers' Association	District Chair
2.	Ajaya	M	50	>5 years	Employers' Association	Skill development coordinator
3.	Bijaya	M	55	>20years	Employers' Association	Chair of sectoral committee
4.	Priya	F	45	>5 years	Individual employer	Owner of the enterprise
5.	Madhu	M	30	>5years	Individual employer	Chief of construction company

6.	Lila	F	40	>10 years	Constituent school of CTEVT	Principal
7.	Lalit	M	45	>15 years	School in partnership with CTEVT	Principal
8.	Ramesh	M	35	>15 years	Private School under CTEVT	Principal
9.	Pratap	M	50	>5 years	Community School	Principal
10.	Bishal	M	50	>20 years	CTEVT	Officer
11.	Ajit	M	45	>15 years	CTEVT	Officer
12.	Ashok	M	50	>15 years	CTEVT	Officer
13.	Shiva	M	45	>10 years	TVET practitioner	Retired officer
14.	Devi	F	45	>15 years	TVET practitioner	Working in TVET development agency
15.	Bishnu	M	60	>30 years	TVET practitioner	Working in TVET development agency

Respondents of Final Survey

Principal: Gender, School Types, and Sectors of Programmes

Category of Variables	Frequency	Percentage
Gender of Respondents		
<i>Female</i>	17	5.6
<i>Male</i>	285	94.4
Type of School		
<i>Constituent</i>	22	7.3
<i>Partnership</i>	3	1.0
<i>TECS</i>	161	53.3
<i>Private</i>	116	38.4
Sector of Programmes		
<i>Agriculture</i>	102	33.8
<i>Engineering</i>	165	54.6
<i>Tourism and Hospitality</i>	18	6.0
<i>Others</i>	17	5.6

Employer: Gender, Employers' Type, and Sectors

Category of Variables	Frequency	Percentage
Gender of Respondents		
<i>Female</i>	35	11.1
<i>Male</i>	279	88.9
Type of Employers		
<i>Single private</i>	151	48.1
<i>Private in partnership</i>	55	17.5
<i>Government</i>	93	29.6
<i>Public-private partnership</i>	11	3.5
<i>Others</i>	4	1.3
Sector of Employers		
<i>Agriculture</i>	78	24.8
<i>Engineering</i>	144	45.9
<i>Tourism and Hospitality</i>	56	17.8
<i>Others</i>	36	11.5

Annexure V: Loaded Component in Employers' Sample

Item	Component		
	1	2	3
If experienced craftsperson becomes ready to transfer skills	0.796	0.043	0.036
If employer meaningfully participate in curriculum making process	0.720	0.255	-0.077
If there is a provision of having an experienced craftsperson as instructor	0.698	0.089	0.204
If school becomes proactive for their collaboration	0.697	0.054	0.267
If there is regular job fair	0.636	0.462	-0.136
If employer participate in monitoring and evaluation of programmes	-0.063	0.804	0.129
If there is information of existing labour market	0.212	0.780	0.055
If the curriculum is timely updated	0.107	0.727	0.207
If tax is made exemption based on employers' contribution	0.265	0.689	-0.039
If both of them get prepared for it	0.042	0.217	0.780
If their roles and responsibilities legally defined	-0.029	0.057	0.769
If they feel it benefits	0.390	-0.024	0.637

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Loaded Components in School Principals' Sample

Items	Component		
	1	2	3
If employer also have role in selecting instructors	0.858	-0.042	0.035
If the employer participates in enrollment process of students	0.814	0.077	0.049
If employer involve in exam processes	0.791	-0.135	0.207
If teaching learning runs with good infrastructure	-0.097	0.778	0.072
If School provides a quality education	0.071	0.766	0.095
If workplace learning properly managed	-0.057	0.737	0.174
If there becomes a mechanism for formal communication	0.019	0.106	0.830
If there is informal communication between employers and school	0.094	0.061	0.735
If employers and schools support in each other's need	0.149	0.189	0.700

Extraction Method: Principal Component Analysis.

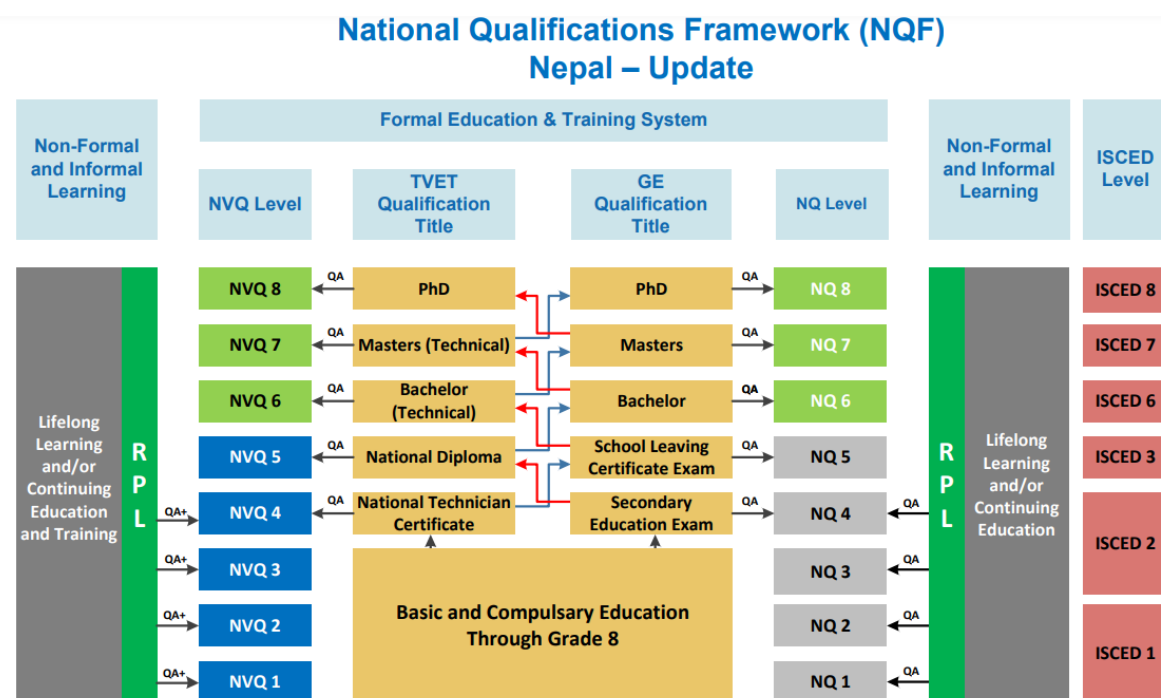
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Communalities of Average Extraction

Items	Communalities	
	Initial	Extraction
Item 1	1.0	.569
Item 2	1.0	.649
Item 3	1.0	.633
Item 4	1.0	.556
Item 5	1.0	.529
Item 6	1.0	.526
Item 7	1.0	.639
Item 8	1.0	.567
Item 9	1.0	.525
Item 10	1.0	.557
Item 11	1.0	.668
Item 12	1.0	.597
Item 13	1.0	.529
Item 14	1.0	.632
Item 15	1.0	.669
Item 16	1.0	.509
Item 17	1.0	.623

Annexure VI: National Qualification Framework Nepal



TVET: Technical and Vocational Education and Training

(+) : Indicates additional technological and practical components as required for each level of NVQF
QA: Qualification Assessed as per the set criteria by National Qualifications Authority (NQA)

GE: General Education RPL: Recognition of Prior Learning.

ISCED: International Standard Classification of Education