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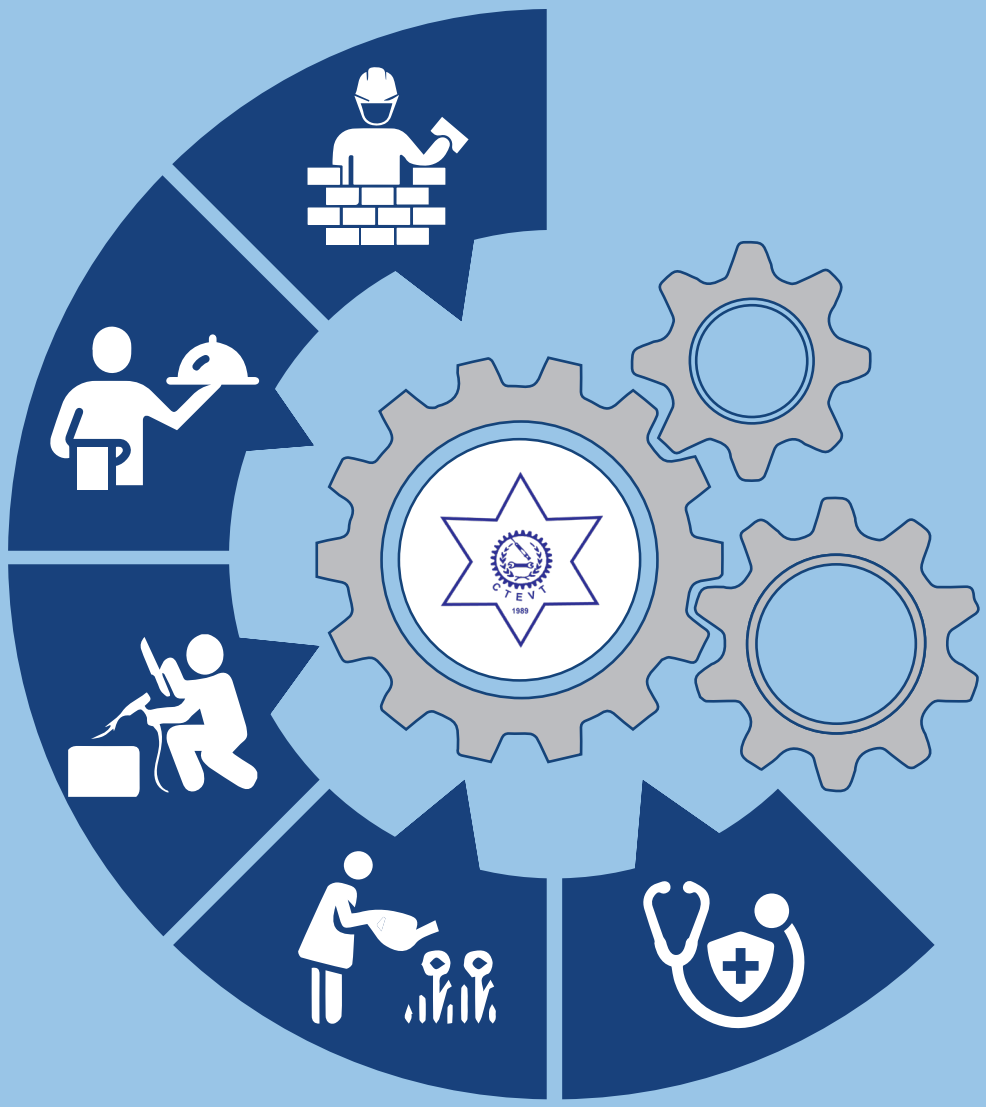

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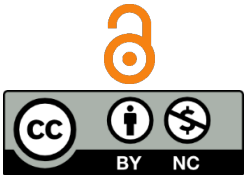

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Foster TVET Regime for Vibrant Economy

A country's economy is determined by the status of employment to its active population. Both the government and private sectors have significant role to create employments that propel economic activities. In order for the economy to achieve national ambition of development and prosperity, it needs the employees with proper skills and expertise in any field they engage with. Similarly, the formal and informal education and training provide necessary skills and build expertise in the workforce that ultimately spur entrepreneurships and industrial activities.

Nepal is currently at watershed-exodus of youths is a mounting concern. Creating jobs within country and retaining youths have been an uphill task. It has also stirred a debate why the youths' emigration is on rise and what sorts of job they want at home to fulfill their needs and ensure secure future. It is after all linked to the creation of decent works for them, which warrants attention and engagement from wider stakeholders.

However, the government institutions are working hard to this end. The Council for Technical Education and Vocational Training (CTEVT) is the apex body of TVET in Nepal that has been producing skilled workforce on several fronts for the national and international job markets since its establishment in 1989. It has been providing pre-diploma, diploma, and market-driven short courses and expanding its programs in various sectors across the country.

In addition to this, CTEVT has continued its academic endeavor- the publication of the Journal of TVET, which is expected to foster TVET regime in the country. The academic debate and discussions to be spurred by this publication ultimately contribute to identify gaps in TVET, relevant policy and laws on it. The practices, policies and other issues surrounding TVET which are reflected in this journal not only promote value of technical education and vocational training but also enhance academic discourse.

There are ten research articles, including the one focused on West African context which helps compare TVET practices across different continents and learn lessons for reform. Most of the articles in this journal underline the need for the country like Nepal to strengthen TVET system with modern features. Reinforcement of quality and relevance of TVET in Nepal is a major focus. Equally important is the effective integration of TVET products in the national workforce which evidently enriches labor market, thereby backing national economy.

The **'Recognition of Prior Learning in Nepal: A Gateway to Socio-Economic Inclusion'** is an article, authored by Dr. Usha Bhandari, which brings to light the importance of recognition of prior learning (RPL). She argues, RPL can become a vital tool to boost socio-economic status in the country. She underlines significance of proper plan and implementation of RPL to validate existing skills of workforce that

opens pathway for them to obtain higher level skills at chosen stages of their lives.

The article penned by Mr. Rajendra Bahadur Shrestha, **'Labor Market Information System: A Review of Some Practices'** takes stock the common practices of Nepali labor market information system and the problems faced by TVET system. It addresses information gap by diving deep into the clear understanding of labor market, practices of labor market information processes in some South Asian countries, including Nepal and challenges facing the Nepali labor market information process. He concludes ensuring meaningful engagement of employers is essential.

Dr. Durga Prasad Baral highlights one of the worrying concerns of present time declining enrollment in educational institutions of Nepal in his article, **'Declining Enrollment in Long-Term Engineering Programs: Stakeholders' Perspectives'.** He focuses on the declining enrollment in long-term engineering programs under the CTEVT in Nepal. Analyzing enrollment data and trend over the past 4 to 5 years, author Baral identifies underlying causes of low enrollment, and proposes recommendations. Focus on curriculum revision, strengthening industry linkages and enhancing overall perception and quality of TVET programs are suggested by him.

Three African writers – Mr. Cosme Zinsou Odjo, Ms. Cordula Kaoti and Ms. Alaba Oluwatoyin Oyewusi jointly penned the article, **'Quality Assurance in West African TVET Institutions: A Brief Literature Review'** for this journal where they suggest leadership, governance, management, physical environment, human resources, curriculum, student participation, access, equity, career guidance, financial management, program evaluation, research, innovation and development as essential elements to whet overall quality and effectiveness of TVET programs and institutions.

Moreover, Mr. Ajay Poudel urges policymakers to integrate systematic recognition processes to foster a culture that values and empowers informal sectors' workers in his research article, **'Skill Test of Workers from Informal Sectors for their Recognition and Employability: A Thematic Study'.** In it, author Poudel explores significance of skill tests and recognition for the informal sector workers by employing a systematic approach to unveil recurring themes: validation of skills, employability enhancement, recognition and accreditation.

Ms. Divya Singh and Mr. Anup Bhurtel explore the experiences of participants of private organizations of Nepal during soft skills training (reaction level), and their experiences while applying the knowledge and skills back to their workplaces in their article, **'Experiences of Private Sector Employees on Transfer of Soft Skills Trainings'.** Based on participants' experience, the authors emphasize that for the training transfer to occur, their own willingness to transfer guided by training content's job relevance, micro-sessions based training designs, and importantly,

the post training interventions and support from employers or HR/line managers are necessary.

The review article, **'Enhancing Performance of Health Assistants through TVET for Better Healthcare Access'** written jointly by Ms. Rojina Basnet and Mr. Chetan Karki Pyakurel explains both challenges and opportunities before health assistants in Nepal. The authors duo stressed that healthcare access could be made better by focusing on teaching and improving health assistants' capacity. However, challenges, such as funding limitations and rural-urban divides persist to this end, they added.

Similarly, in the article, **'Development of Employability Skills through Work-Based Learning',** Mr. Harish Singh Thapa underscores the Work-Based Learning (WBL) in the school production unit of TVET institute. He found WBL a positive indicator of employability and he argues that it develops valuable competencies and employability skills. In the article, he asserts students can enhance, through work-based learning, subject-specific technical skills, generic skills, or soft skills like communication skills, teamwork, problem-solving skills, critical thinking, leadership skills, entrepreneurial skills and management skills.

The **'Vocational Training Instructors' Perceptions towards Transfer of Training: A Case Study'** written by Ms. Shiba Bagale brings forth the perception of participants towards short-term training in the real context. The participants observed that training is a booster of their professionalism. However, shift from focus on the instructional skills and knowledge is warranted by this article.

In the article, **'Challenges Faced by Apprentices in Completing Dual TVET Course: A Case of Butwal Technical Institute',** Er. Raj Kumar Thapa and Er. Navin Kishor Gaihre found that the family support was a moderate challenge for the apprentices to complete their dual TVET apprenticeship at Butwal Technical Institute (BTI). For the research, they collected data from 204 apprentices out of 314 in the study. Another challenge was the environment of industry for the apprentices to complete the dual TVET apprenticeship training at BTI, while institutional technical efficiency was considered a moderate challenge to this regard.

The Research and Information Division at CTEVT orchestrated the production of this publication. It was accomplished through collaboration with scholars, researchers, and experts. The division expresses profound gratitude to all the peer reviewers and copy editors who generously dedicated their valuable time to meticulously review the manuscripts. Their feedback and suggestions proved to be instrumental in enhancing the quality of the publication.

Finally, the entire editorial team extends gratitude to the CTEVT management, staffs and authors for the support and collaboration. It expects such cooperation in the days ahead from the authors. The editorial team also welcomes the feedback to this publication, which it believes, would contribute to enhance its quality further.

Contents

Journal of Technical and Vocational Education and Training (TVET)
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Article

Recognition of Prior Learning in Nepal: A Gateway to Socio-Economic Inclusion

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Abstract

Recognition of Prior Learning (RPL) has become a popular policy instrument across the world-both in developed and developing countries. RPL is highly relevant in the context of Nepal, as it aims dignified employment to its people. Nepal has a huge number of people working in informal sector, including large number of migrants returning home every year with skills and experiences. However, the skills and competencies of these people are not yet harnessed to ensure them dignified jobs and better earning. This article is based on the secondary information along with author's personal experiences and interaction with few RPL candidates. It presents the basics of RPL, the importance of RPL in the context of Nepal, and then looks at some problems and issues of RPL provision in Nepal. Finally, the article draws the conclusion on how the RPL can become a vital tool to boost Nepal's socio-economic status.

Keywords: recognition of prior learning, TVET, access, equity, qualifications framework

Introduction

The technical and vocational education and training (TVET) is increasingly seen from a lifelong learning perspective, promoting competencies for work and life and ensuring that all youths and adults have equal opportunities to learn (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2015). On the one hand, the goal of TVET is to assure livelihood of an individual through education and learning and, on the other, it is to contribute to sustained economic growth and development of the country through the productive workforce. It also has the objective of contributing to achieve social objectives of increasing access to TVET opportunities for the disadvantaged groups who are economically poor and socially discriminated (International Labour Organization [ILO], 2017). Additionally, it contributes to poverty alleviation, greater equity and social justice (Smith, 2006), thereby reducing societal inequalities and enabling a sustainable future. In this context, skill development, job creation and employment is a global concern. This has been reflected in the formulation of the Sustainable Development Goals (SDGs) targets, which is explicit in terms of inclusion of TVET. The SDG 4 states "inclusive and equitable quality education and lifelong learning for all" and the target 5 of SDG 8 states "employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay

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for work of equal value" (UN, 2015).

However, in contrast to these principles, inequality persists in many forms. Systemic discrimination, inequalities related to course materials and school infrastructure, and discriminatory career guidance practices are examples of common barriers affecting access to and participation in TVET programs (UNESCO, 2020). Besides these, the non-recognition of skills and competencies is one of the prominent barrier, which is yet to be addressed systematically in many countries, especially in developing countries. In the developing countries, the majority of young people acquire workplace skills by non-formal or informal means that could be at work or at home, or elsewhere. However, their knowledge, skills and competencies are rarely recognised. Hence, they face challenges in finding appropriate and decent jobs or accessing further education in their own country or overseas. This hinders development of human capital and also causes under-utilization (Aggarwal, 2015).

Nepal aims to provide dignified and productive employment for all citizens. This has been explicit in the government's legal and policy documents. The Constitution of Nepal (2015) highlights employment as a fundamental right, the 15th periodic plan recognizes TVET as a crucial instrument to enable people to secure employment. While these visions are gradually translated into practice, the majority of young people in Nepal acquire workplace skills by non-formal or informal means that could be at work, at home or elsewhere. Further, large number of youths leave country annually for better foreign jobs and return home after few years with occupational and social skills. However, when the knowledge, skills and competencies are left unheard and unrecognized, these people face challenges in finding appropriate and decent jobs or accessing further education in their own country or overseas. (Aggarwal, 2015).

The above context warrants importance of recognition of skills and experiences of youth, thereby reinforcing relevance of the concept of RPL in the developing country like Nepal. The RPL concept is assumed to have originated in Europe several decades ago with the aim of promoting lifelong learning for the personal development of people. Since then, RPL has become a popular policy instrument for promoting equity and access across the world. RPL is increasingly becoming popular in both developed and developing nations. The increased understanding around the globe is that the systems and institutions must ensure everyone's equal access to TVET opportunities regardless of gender, age, religion or ethnicity. The RPL is one of the crucial instruments in the TVET sector that allows the recognition of knowledge, skills and competencies of people acquired through non-formal and informal means. Skill assessment and certification through RPL serve as an instrument of inclusive learning and employment opportunities. Therefore, it is becoming a political and social issue and drawing attention of policy makers in many developing countries.

With an increasing recognition of the learning acquired through formal, non-formal and informal means, many countries have sought to implement established RPL systems. A study conducted by ILO on RPL highlights that the outcomes of RPL is positive for workers because it improves

their employability and enables them to obtain further education and training as well as promote social inclusion and self-esteem (Dyson & Keating, 2005). Similarly, a study conducted in Bangladesh highlights that the RPL facilitates the transition of unemployed workers into employment and increases the chances of finding work formal and larger private companies through formal job search channels (Nakata et al., 2022).

RPL has proven to be beneficial for industries and workers, including returnee migrant workers on several occasions. Businesses and industries have used RPL for recognizing skilled migrant workers and skills in the workplace, and certifying skilled workers in occupations with human resource gaps (Nakata et al., 2022). In some countries, RPL is also used as entry points for people to specific industries, training programs or universities. RPL was used to identify skill gaps and training needs among workers in Tanzania. Similarly, it was used to recognize certificates of the population in South Africa who suffered educational discrimination for admission to higher education institutions (Aggarwal, 2015).

This paper is based on the secondary information along with author's personal experiences and interaction with purposively selected ten youths from Koshi and Bagmati Provinces, who applied for the skill test through RPL mechanism. The information was gathered during the period from 2022 to 2023.

This paper discusses the basics of RPL, the importance of RPL in the context of Nepal and draws the conclusion on how the RPL can become a vital tool to boost Nepal's socio-economic context.

The Basics of RPL

Meaning and Purpose of RPL

RPL has become a popular policy instrument across the world. It is known by different names in different countries. It is known as Accreditation of Prior Learning (APL) or Accrediting Prior Experiential Learning (APEL) in the UK; RPL in Australia, New Zealand, and South Africa; Prior Learning Assessment (PLA) in USA; and Prior Learning Assessment and Recognition (PLAR) in Canada. Furthermore, when the Council of the European Union refers RPL as the 'validation of non-formal and informal learning' (VNFIL), the Organisation for Economic Cooperation and Development (OECD) refers to it as 'recognition of non-formal and informal learning outcomes' (RNFILO) (Andersson, Fejes, & Sandberg, 2013). Similarly, the UNESCO uses the phrase 'recognition, validation and accreditation of the outcomes of non-formal and informal learning' (RVA) (UNESCO, 2012).

Even though different countries use different terms to RPL, it commonly refers to the same process of "identifying, documenting, assessing and certifying formal, non-formal and informal learning outcomes against standards used in formal education and training" (ILO, 2024). The RPL is a process to identify, assess and certify a person's knowledge, skills and competencies acquired through any means regardless of how, when or where the learning occurred against prescribed standards for a part or full (Aggarwal, 2015). The OECD (2021) highlights that the RPL has three main purposes: (i) social justice, (ii) social change, and (iii) economic development. The purpose

of RPL is social justice as RPL is established to foster a lifelong learning, broadening the individuals' opportunities for further skills development and enhanced employability (Social Justice). Similarly, RPL is established to enhance the individuals' access to formal education though transparency of the education system, creating a better condition for social awareness and change (Social change), and RPL is a policy tool that can be used as 'fit for purpose'. Furthermore, RPL is established to improve competitiveness, economic development and labor market matching (Economic development).

RPL is a procedure in which a designated organisation confirms that a person has acquired certain competencies in informal or non-formal ways (or also through formal programs in other countries) that are otherwise usually acquired as part of a specific formal or non-formal education (Maurer, 2021, p. 3). RPL is done for all prior learning which has never been assessed or credit-rated. These can be any learning achieved through life and work experiences (paid and voluntary); gained in workplace or during continuing professional development; acquired independently or in non-formal contexts. Recognition must be transferrable and not only context specific (ILO, 2023).

RPL Methods and Process

RPL encompasses many processes and methods for acknowledging prior experience as learning. RPL happens all the time: while screening job candidates by employers, while developing education programs based on the assumptions of students existing learning (Caves et al., 2023). However, RPL assessment can take different forms. Andersson et al. (2013) describes two main methods of RPL besides traditional tests. The first is a 'portfolio' and second is an 'authentic' assessment. Portfolios are considered useful method to collect materials, such as certificates from training courses or information on voluntary activities, letters from employers, products developed by the applicants as well as providing evidence of their competences acquired through experience instead of formal learning. Authentic assessment is the assessment of knowledge and competence in a simulations of real-life situations. Authentic assessment enables people to exhibit their competencies in a close to the real situation as far as possible (Andersson et al., 2013). Whereas, the European Center for the Development of Vocational Training identifies eight types of assessment for RPL: (1) debate, (2) declarative methods, (3) interviews, (4) observation, (5) portfolio method, (6) presentation, (7) simulation, and (8) tests and examinations (European Centre for the Development of Vocational Training [CEDEFOP], 2022).

Depending on the need of a country, RPL process might lead to a full or partial qualification. Full qualification is a formal outcome of an assessment process resulted into a certificate, diploma or a title. Whereas, a partial qualification is a component of a qualification that can be used for renewal or specialisation purposes. The assessment may also lead to a credits/units towards a qualification or an exemption from admission prerequisites or a certificate of labor market competences (OECD, 2021).

RPL and Qualifications Framework

Credibility of RPL mechanism is based on the occupational standards that are developed

in line with qualifications framework. The qualifications framework is a transparent tool to assess skills and knowledge against occupational standards prescribed for a qualification. It is a way of structuring existing and new qualifications, which are defined by learning outcomes (Tuck, 2007). Although qualifications frameworks are common drivers of RPL, they are not necessarily prerequisites to it. In many countries, especially in North America, RPL has been initiated without qualifications frameworks, mainly for the purpose of mainstreaming and formalising policy and practice, as well as to enable people to enhance their opportunity for increased employability and skills development (Harris & Wihak, 2014, p. 13). Similarly, in Bolivia, RPL is used to recognize the skills and competencies of youth so well that they are hired at jobs or enrolled at higher level training, when the country has not yet developed a qualification frameworks (personal interaction with Bolivian authority, 01 February, 2024).

Importance of RPL in Nepalese Context

RPL is a relevant concept in the context of Nepal. While Nepal aims to provide dignified and productive employment to its citizens, social and economic challenges persist. With an estimated unemployment rate of 11.7%, nearly 1 million of the country's work force is without job. Out of the employed labor force, 39.3% are underemployed (Central Bureau of Statistics [CBS], 2019). Unemployment is particularly high among young people, who account for 48 percent of the labor force but make up 69 percent of those unemployed (Ezemenari & Joshi, 2019). Out of the employed labor force, 62.2% are occupied in the informal sector in the low-paid employment. Majority of those in the informal sector are women and disadvantaged groups who are working under unregulated and poor working condition (CBS, 2019).

Until now, lack of appropriate skills and competencies of the workforce is often taken for granted as the main reason behind the unemployment and underemployment in Nepal (Authors' personal experience). Whereas, the benefits of systematically harnessing existing skills and competencies of people in the informal sector and/or returnee migrants has not been seriously discussed. The bitter truth is that due to the non-recognition of the skills and competencies, these people are often excluded from the employment opportunities in the national and international labor market. The RPL process can help these labor force in the informal sector acquire a formal qualification that matches their knowledge and skills, thereby contributing to improvement of their employability, mobility, lifelong learning, social inclusion and self-esteem. This increased prospect for inclusion in the labor market is a win-win situation for all. Employers will be able to access proof of skilled personnel and better match them with suitable jobs, while also increasing their productivity. Governments will be able to have better assurances of increased competitiveness and economic growth, as well as social inclusion and equity.

Furthermore, the recent population survey shows Nepal has around 15,689,777 economically active individuals (CBS, 2021). However, a huge number of youths leave Nepal for the better opportunities abroad. Between 2008/09 and 2021/22,

more than 4.7 million migrant workers left country (MoLESS, 2022). Majority of these Nepali migrant workers go abroad without skills. The remittance of the migrant workers is accounted in a GDP of the country. The remittance inflow is accounted as of NPR 961.2 billion (ca. USD 7.5 billion) in 2020, however, the skills and experiences gained overtime while working abroad is not yet formally recognized in Nepal upon their return. As there is no established mechanism yet for the recognition of their existing skills and experiences gained abroad, many of these returnee migrant workers are not able to get the job as per their capacity in the Nepali labor market. According to the labor force survey, 2017/18, out of the total returnee migrants until 2018, only 42.8 percent are employed in the domestic labor market, while 13.4 percent are unemployed and another 43 percent out of the labor force (CBS, 2019). One of the main reasons behind unemployment and underemployment of the returnee migrant workers is the lack of concrete mechanism for testing and certification. The learning and experiences of workers in the informal sector and the returnee migrants are rarely harnessed, leading to low productivity of the workforce. This has forced them to search the opportunity again in foreign countries. Nepal labor migration report 2022 highlights that over 1.8 million migrant workers have renewed their labor permit since 2011/12. Besides, 94,617 youths renewed their labor permit to go abroad in 2020/21 (MoLESS, 2022).

It is obvious that if skills and experiences of returnee migrants are tested and certified by the national system, it allows them to enter into the Nepali labor market and enhance their earning possibility. Further, with the recognized certificate, the returnee migrants may have opportunities to obtain higher-level skills to boost their competencies so that they would earn more in the domestic as well as international labor market. The government has approved the Directive for Returnee Migrant Workers, 2022 and has stressed three interrelated dimensions of the reintegration efforts: social integration, employment and entrepreneurial development. It has prioritized skill development and certification as well as programs, such as financial literacy, vocational training, recognition of prior learning, psychological support, shelter, etc. for the reintegration of migrant workers (MoLESS, 2022).

Current Provision, Challenges and Issues

With the approved National Qualifications Framework[1], the RPL has received a special emphasis. It has been considered an important mechanism at all levels of training and education system. However, the author argues that in Nepal, the RPL is remained at policy level only and not yet concretely translated into action. Due to absence of a concrete plan with the designated human resources at all levels of government and also due to limitation of financial resources, it is still at the premature stage. Importantly, the existing RPL process is not accessible to everyone. When RPL is being conducted at several places, this has lessened the issue of physical access to some extent. However, the RPL is still beyond the reach of needy youths due to existing policy and practices of the RPL itself. To date, only around 1,500

1 Government of Nepal endorsed a blended mode National Qualification Framework (NQF) in 2020. A NQF is a single framework that includes the qualifications in basic education, TVET education and higher education.

people have participated in the RPL process (Nepal Vocational Qualifications System Project [NVQS], 2023), which is a negligible number as compared to those people working in the informal sector.

There are several issues and challenges behind the slow progress of RPL in Nepal. At present, RPL process in Nepal is centrally managed by the National Skill Testing Board (NSTB) at CTEVT, which is the authorized institution to manage RPL. The RPL process includes (i) Submission of application when there is a call for application from the NSTB, (ii) Counselling by the RPL counsellor to the individual and suggestion for evidences (proof of their skills from employers or from Municipality), (iii) Skill test and result publication (NSTB/NVQS, 2023). However, there are thousands of youth who are entitled to receive adequate information on the RPL process so that they would be encouraged to apply for it. Besides, the RPL process itself takes significant amount of time with several administrative hassles, preventing many needy youths to apply for it.

During the interaction with RPL candidates, the author has noted their reactions and feedback. RPL candidates repeatedly mentioned that they had faced a difficultly during the application, as they had to bring evidences validated by employer or the municipality. All ten RPL candidates mentioned that due to this requirement, many of the potential applicants are not able to apply for RPL. Besides the duration of assessment process, the results are also delayed significantly. Several skill assessment centres mentioned that the RPL candidates were also frustrated, mainly due to delay of results for several months. The RPL is conducted in the premises of TVET institutions, which are NSTB recognized skill assessment centres. These institutions are the contact point for the applicants, thus are responsible to answer the queries raised by the applicants. When the purpose of RPL is for social justice and social change, the RPL assessment must be learner-focussed and accessible to everyone. It should be a gateway not a barrier. Therefore, information on the process and its potential benefits must be communicated clearly to all for the purpose of awareness raising. Besides, the RPL process must be flexible and easy to understand to the beneficiaries and easy to implement by the implementing institution (ILO, 2023).

Despite various concerns, the existing RPL process has notable positive responses from the youths who went through it. The author has noted positive points in feedbacks from several RPL candidates. After receiving a RPL certificate, a man said that now he had a certificate that had boosted his morale. He will use the certificate to enrol in further training. Similarly, a woman recalls her experience that she once had no proof of her competency on masonry skills. She always had to explain much to people before to getting job. Now she is confident, as she can show the certificate as a proof of her competency (NVQS, 2023).

Conclusion

Majority of productive workforce in Nepal is employed in the informal sector with their skills unrecognized by the system, which leave them to work in a low-paid and substandard condition. Besides, many youths leave country for better opportunities

abroad. Upon return home, their skills and competencies are rarely harnessed that would allow them to contribute to the economic development of country. RPL can play an important role in improving access of these people to higher level training and better employment, ensuring equitable opportunities. RPL helps deliver a more efficient, flexible and more inclusive skill development opportunities to youth, especially to those who were excluded from the opportunities due to lack of recognized certificates. RPL is not a new concept for Nepal, however, its mechanism needs to be further sharpened to make it easy and hassle-free to benefit all needy youths. Properly planned and implemented RPL will enable people to validate their existing skills that opens the pathway for them to obtain higher level skills at chosen stages throughout their lives. It will also increase their chances to enter/re-enter to labor market for better earning. Therefore, considering the current economic scenario, there is an urgency for expansion of RPL provision in Nepal so that it would be at needy one's access.

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Article

Labor Market Information System: A Review of Some Practices

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Abstract

Accurate and up-to-date labor market information system, which is conducted with the involvement of public decision markers, technical and vocational education and training (TVET) practitioners, employers and their associations, employee associations, training providers and learners, is an essential feature of a successful TVET system. Similarly, engagement of multiple TVET stakeholders is an important component of overall skills development system which leads to developing responsive labor market skill needs, supporting prioritized economic sectors to foster dialogue among the stakeholders to maintain balance demand and supply of labor right. It enhances integration of labor market requirements in the overall training and skills development cycle and ensures that trainees acquire market-relevant skills for their employability and self-employment. In the context of changing labor market conditions, collecting, compiling, analyzing, and disseminating current and future needs from the TVET customers can support better matching for training and employment. As labor markets are constantly evolving and changing, labor market analysis therefore needs to be conducted on a regular basis so that real time labor market information can be obtained. But the active and regular labor market information process is underexplored in a developing country like Nepal. The main objective of the article is to explore the common practices of Nepali labor market information system and the problems faced by the TVET system. Thus, the article addresses the information gap by diving deep into the clear understanding of labor market, practices of labor market information processes in some South Asian countries, including Nepal and issues and challenges facing the Nepali labor market information process.

Keywords: labor market information, training needs assessment, rapid market appraisal, employer engagement, industry-institute linkage.

Introduction

Assessing real needs for qualifications and skills of business, industry, or community is one of the most important tasks of any technical and vocational education and training (TVET) program. The TVET programs are only successful when the needs assessors have managed to identify the real demand on the labor market. The training programs, which focus on the needs of users, will be more successful (International Labour Organization [ILO], 2016). Thus, conducting some form of a labor market assessment is usually the first step while designing a TVET program. As

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the private sector is the major employer of TVET graduates, it is imperative that employers have a key role in the labor market information (LMI) activities. Moreover, it is widely believed that the major contributing factor for the mismatch between demand and supply of skills in the labor market is the lack of decisive and institutional involvement of private sector stakeholders (Colombo Plan Staff College [CPSC], 1998).

Real time labor market information is essential for different TVET actors. For policy makers in government, it provides information- on which to base TVET policy, and to allocate resources as per skills needs of various economic sectors. For TVET institutions, it enables them to know which occupations are in demand and, therefore, which training programs to implement. It also facilitates them to plan curricula that better reflect the needs of local economy. For job seekers, it helps them make informed decisions on training and identify career pathways that suit their skills and interests. For business and industry, it provides information for making decisions on recruitment, business expansion, diversification, relocation, employee skills development, etc.

In Nepal, the labor market for domestic workers is made up of local labor market in national, province, districts and towns, while the migrant labor market for the foreign job aspirants. It operates at economic sectorial levels and embrace stakeholders from all areas of skills development ecosystem. Stakeholders are drawn from public and private employment services, training providers, employers and employer associations, employee associations, non-government organizations and civil society groups.

The main objective of this article is to examine the situation of collaborative approaches and practices of engagement of employers and the communities in the assessment of labor market information (LMI) process. It is primarily based on review of the existing practices made in Nepali labor market information process and desk review of South Asian countries practices in the labor market information process. In addition, as a TVET practitioner, I have also reflected my own practical experiences, challenges and lessons learnt throughout my professional career on conducting labor market information study.

Understanding Labor Market Information

For a deeper understanding of LMI processes, I would refer to the following sources for the operational definition of labor market information:

Rihova (2016) defines LMI as,

> any information concerning the size and composition of the labour market or any part of the labour market, the way it or any part of it functions, its problems, the opportunities which may be available to it, and the employment-related intentions or aspirations of those who are part of it.

LMI is defined in the UNEVOC TVETpedia glossary (2022) as,

> collecting, analysing and disseminating quantitative and qualitative information related to the demand for and supply of labour. It is the process of data analysis to determine whether shortages are skill shortages (entire jobs) or skill gaps (deficiencies in the skills sets of existing workers), and whether skills development is the best solution to the shortage.

It also states that a LMI system includes career information, advice, and placement services, as well as data on shortages and mismatches, occupational profiles and skills under-utilization.

According to Finch and Crunkilton (1999) in their classic workbook on Curriculum Development in Vocational and Technical Education, employer surveys are probably widely used approach in determining the needs or demands of business and industry. The approach is quite simple: contact an employer and obtain information about their present labor status and future projected labor needs.

Caves and Renold (2016) developed the rubric of the employer engagement in the design phase of the TVET system as "no engagement in pre-training phase to ad hoc or informal engagement in needs analysis, curriculum design, and training materials development to formal engagement without power to formal engagement with two times power".

Practices of Labor Market Information in Some of South Asian Countries

Here, I portray practices of LMI processes in some South Asian countries, such as Bangladesh, Bhutan, India, the Maldives, Pakistan, and Sri Lanka. These findings have been summarized by reviewing available reports of the respective countries. The rationale behind selecting some South Asian countries is simply because of similar context of these to Nepal, economically and socially.

Several laudable initiatives have been taken in Bangladesh in employer engagement in the labor market information analysis process. As garment industry is one of the most important and blooming industries in the country, the Bangladesh Garment Manufacturers and Exporters Associations has a separate unit to conduct regular labor market analysis for domestic as well as destination countries for migrant workers. Underprivileged Children's Educational Programs (UCEP) have developed strong linkages with industry for the needs analysis of the human resources and job placement of the graduates. The Chittagong Skills Development Centre (CSDC) is an industry-led non-profit skills training centre aiming to grow the skilled labor pool by providing high-quality, cost-effective, value-added skills training to its corporate members and other private companies (Bangladesh Garment Manufactures and Exporters Associations, 2013).

In Bhutan, the Labour Market Information and Research Division (LMIRD) of the Department of Employment and Human Resources, Ministry of Labour and Human Resources has developed Bhutan Labour Market Information System in the country. The Division releases a Labour Market Information Bulletin (LMIB) every year. The Bulletin is intended to help both the supply side (job seekers and workers) and the demand side (employers) understand the current labor market situation and be informed about various opportunities in the labor market (Department of Employment and Human Resource, 2020).

In India, business and industry work together with government in the National Skills Development Corporation (NSDC) for the development of TVET sector in the country. NSDC is a not-for-profit, private

limited company in which the government holds 49% of the share capital and the private sector owns the remaining 51%. NSDC works closely with Ministry of Skill Development and Entrepreneurship and the private sector. It plans to set up a LMI system - an online system that provides qualitative and quantitative information on the labor market. It introduced Sector Skill Councils (SSCs), industry-led TVET institutions, and workplace-based training. Till date, NSDC has approved 38 Sector Skill Councils and Private Sector Support Units. NSDC provides governance, monitoring and performance improvement support. There are over 600 Corporate Representatives in the Governing Councils of these SSCs. They conduct skill gap analyses and identify skills development needs (National Skill Development Corporation, 2018).

The Maldives has introduced Employment Sector Councils (ESC) during the implementation of Employment and Skills Training Program (ESTP) to ensure industry involvement to identify skills gaps and prioritise skills and training needs, and based on these skills and training needs, competency standards and training programs are defined in collaboration with training providers and the government. Five councils have been successfully formed and put in place for the priority sectors - tourism, fisheries, construction, social services and transport. During the project implementation, 58 ESC members had introductory training on occupational skills analysis and competency standards development, which significantly improved ESC performance. According to the final report published by Asian Development Bank (ADB, 2012), the ESCs had identified 40 occupations for training programs, compared with the 24 originally planned. Around 26 national competency standards have been approved by the ESCs and endorsed by The Maldives Qualifications Authority (MQA); ESC identified skills gaps and training needs in 10 critical qualifications per sector. The ESCs are mandated to approve the competency standards (Rothboeck, 2012).

Another South Asian regional example in which collaboration between the public and private sectors is being forged by the National Skills Information System (NSIS) in Pakistan with the support of the EU-funded TVET Sector Support Program and the National Vocational and Technical Training Commission (NVATTC). NSIS seeks to collect data from the private sector on market demand for skills and to disseminate information using a digital platform (NAVTTC 2015). In order to have job related information, Pakistan is also practicing Job Placement and Career Counselling (JPCC), an agency to link business, industry and provincial TVET authorities and the re-upon at the federal level. This is still a work-in-progress (Khan, Schleber & Iqbal, 2019). Similarly, TVET Reform Support Program has supported the development of a pilot scheme, the Cooperative Vocational Training (CVT) in close collaboration with public and private stakeholders. Within this scheme, enterprises (employers), training institutes and TVET authorities share the responsibility for labor market assessment (planning) and conduct of vocational training. The CVT scheme addresses the need of demand-oriented training by combining vocational courses in training institutions with on-the-job training in enterprises.

A good practice is also found in Sri Lanka: There are joint ventures between the government and the private sector, including the Ceylon German Technical Training Institution, which focuses on technology related to the automobile industry and other technical trades, which has strong links with industry (Report of Skills Sector Development Programme of Sri Lanka, 2019). According to The Tertiary and Vocational Education Policy (2016), training needs assessment will be done based on labor market analysis through the establishment of a Labour Market Advisory and Coordinating Committee (LMACC) that includes ministries and national bodies, as well as the Employers Federation and Chambers of Commerce (Ceylon German Technical Training Institution, 2016). TVET Policies for Employment and Entrepreneurship (2017) have formed private sector led Sector Skills Councils. Skills councils function as a platform between the relevant industry and the training sector to ensure development of industry relevant skilled personnel taking into account the labour market demand (ADB, 2012).

Some Practices of Labor Market Information in Nepal

The practices of assessing labor market at the need of the human resources for employers and communities started long ago in Nepal. At the crossroad of professional careers as a TVET practitioner, I found several practices and initiations in conducting labor market assessment in the Nepali TVET system. Some of them are briefly discussed below.

Five national level employer associations: Federation of Nepalese Chamber of Commerce and Industry (FNCCI), Confederation of Nepalese Industries (CNI), Federation of Nepalese Cottage and Small Industries (FNCSI), Hotel Association of Nepal (HAN), and Federation of Contractors Association of Nepal (FCAN) have jointly established an Employer-led Labour Market Information Secretariat (ELMS) in the premises of FNCCI in December 2020 with the support of Dakchyata Project which was managed by the British Council Nepal and funded by the European Union Nepal. The main objective of ELMS is to create a sustainable model for employer associations to conduct harmonised, longitudinal and holistic demand side of labor market information survey in the country. Thus, ELMS captures employer's demand for current and future skills need, develops employers' capacity and confidence in designing and delivering LMI studies, fosters a shared standard classification of occupations, and supports employers in whetting a policy and advocacy role for advancement of TVET policy related to labor market. The belief of engaging and sitting in the driving seat for the employer associations themselves of the assignment is that employers are better placed to assess the need of skilled workers than anyone else. The philosophy of the practice is to engage employers and employer associations in an area of forecasting labor market skill needs in the respective sectors themselves. Thus, ELMS provides a forum through which employers can play a pivotal role in the identification of "demand side" skills and qualifications requirement in three priority sectors (Dakchyata ELMS Report, 2022).

SKILLS Project under UNDP established Management Information System (MIS) of the labor market in 2017, which deals with the supply side of the labor market

information in the country. MIS of the labor market covered the annual production of the skilled human resources from the Council for Technical Education and Vocational Training (CTEVT), CTEVT- affiliated private training providers as well as the donor funded TVET programs. Since this is the supply side system, one way of the TVET labor market information has been maintained.

In 2016, CTEVT has conducted a labor market survey to assess the emerging needs of technical human resources in the country (CTEVT, 2016). It was an employer survey. The survey has come up with highly demanded occupations in the economic sectors and the sources of the information are the employers themselves in the related sectors.

The Embassy of Switzerland, Nepal had conducted an analysis of selected industry and service sectors in Nepal in 2014. The objectives of the study were to explore employment opportunities primarily for trained people, who have entry level skills to start working, to assess existing and new occupations/skills in demand, and review stakeholders and collaboration potentials for training and employment. The sub/sectors of the study included construction, electrical, mechanical, and automobile, computer and IT, tourism, education, health and banking and insurance (The Embassy of Switzerland, 2014).

In addition, Central Bureau of Statistics and National Planning Commission conduct a labor force survey every four years, the most recent in 2019. In a highly dynamic labor market, the usefulness of the data for federal and provincial decision-makers is somewhat declined.

The Employment Information Centers under Department of Labor also exist. Their role is largely restricted to preparing profiles of unemployed individuals. It is recognized that they are facing resources constraints, thereby causing distrust in their information, which may be out-of-date, while responses to specific requests can be delayed.

During the 1980s, the National Education Committee (NEC) under the Ministry of Education had conducted area-based assessment of context, input, process and product (CIPP) developed by Stufflebeam (1966) before selecting TVET programs and establishment of technical schools. As a result of CIPP assessment, Karnali Technical School was established in Jumla, while Jiri Technical School in Dolakha, Lahan Technical School in Siraha, Uttarpani Technical School in Dhankuta with respective TVET programs. Stufflebeam explained CIPP as a comprehensive framework for guiding the formative and summative assessment of proposed projects before making the decision of setting up training institutions. The roles of the National Education Committee regarding technical education and vocational training were then handed over to the Directorate of Technical Education and Vocational Training (DTEVT) under the Ministry of Education. With the establishment of CTEVT in 1989, it continued the same process while extending the establishment of the technical schools in other parts of the country, such as for Rapti Technical School in Dang, Bheri Technical School in Banke, Seti Technical School in Doti, Dhaulagiri Technical School in Mustang (Collum & Ramse, 2004).

Informally, most of the donor-funded private training providers conduct local level training

needs assessment before implementing the technical training programs in order to verify whether the planned technical training programs have needs of the actual demands in the local labor market factored in properly. Some do this in the name of Training Needs Assessment (TNA) where needs assessors visit communities, government and non-government offices and the local industries in order to identify the current situation and the needs of the skilled workers for the coming days.

At the local level, identifying local skills demand and customizing learning resources to meet those needs help to make training more relevant for local enterprises. For these reasons, some do this in the name of Rapid Market Appraisal (RMA) surveys. Under such surveys, the number of skilled workers available at present and number of skilled workers needed in specific occupations in the predetermined areas are identified, including additional skills of the workers as preferred by employers and communities where present occupational interests of local youths are also assessed. In this appraisal, employers and communities are directly involved in providing labor market information (Shrestha, 2016).

Some big business houses have their own training units and they conduct performance gap analysis of their employees when new technology and equipment are launched to train their employees accordingly.

Some non-government organizations apply Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA) to assess the needs of the communities in order to design and implement their livelihood training programs. The main sources of the information for the studies are from the local communities, lead farmers, teachers and local micro enterprises.

Currently, there are a number of private job portals in which labor market information on the demand side can be found- JobNepal.com, Rojgari.com, Merojob.com, Hamrobazar.com, etc.

Issues and Challenges of Nepali Labor Market Information Process

There are several issues, problems, and challenges in assessing the labor market information in the country. I have captured and elaborated some of them from my own practical experiences below.

At general level, there is absence of a robust national level labor market information system in Nepal. The Central Bureau of Statistics and the National Planning Commission generate labor related data which are of little use, mainly due to lack of sufficient resources allocated to it. The personnel coming from outside the industrial system strive to assess the needs of the labor market for the human resource requirement of the industrial sector. There is lack of knowledge and skills of the differences between the industrial and human resource development aspects. Similarly, there is no involvement of the private sector in the process either. Thus, these data lack real-time industry-specific, occupation specific and level of occupation specific information, which ultimately results in limited use.

During local labor market assessment to ascertain the actual need of the workers by the industries, the ambitious and hypothetical figures are normally shared with the need

assessors, which are often not in tune with reality- the real needs of the skilled workers for the industries. This becomes unrealistic data for the policy makers and does not reflect the real-time data which therefore cannot be used as solid basis for human resource development.

Assessment of labor market information has been practiced extensively by the organizations and the training providers in Nepal for designing and organizing their long-term, short-term and livelihood training programs. Since these organizations practice a just-in-time training philosophy, the labor market assessment has not been used very much to meet the training needs that project future in a systematic way.

There are no unified tools developed for conducting labor market survey in Nepal. Different agencies develop the tools based on their own needs and keep them only for their purposes. These agencies rarely share and disseminate the information for the public benefit.

There are a number of national level business and industry associations, such as Federation of Nepalese Chamber of Commerce and Industry (FNCCI), Confederation of Nepalese Industries (CNI), Federation of Nepalese Cottage and Small Industries (FNCSI), etc. in Nepal. Major national level associations have their own commodity associations within these structures and they look mostly after the needs of the sector they represent. Besides these, there are also sector-based associations, such as Hotel Association of Nepal (HAN), and Federation of Contractors Association of Nepal (FCAN). Despite their long existence in the country, limited contributions are seen in the real ground in making any survey of labor market needs by these associations.

It has been widely observed that sector associations like FNCCI, CNI, FNCSI, HAN, FCAN, etc. are always complaining about lack of required skilled workforce and incompetence of trained persons. However, these associations are hardly involved in assessing even their own needs on what competencies and skill sets they are looking for from among their diverse workers. In fact, they should be on the frontline in formulating and placing their needs to the training delivery organizations. As of now, this has sadly not been the case. It is the training providers, or development partners assessing the demand of the industries and on this basis, training is organized, which has largely resulted in mismatch between skills imparted and industry needs. The mismatch is resulted with the employers missing out of their roles in the equation.

The Ministry of Education, Science and Technology (MoEST), and CTEVT, with technical and financial support from SKILLS Project funded by UNDP Nepal have developed the Training Management Information System (TMIS) which maps out the supply side of the labor market in 2017. The system is now in operation and more than 300,000 supply-side information from different training institutes have been regularly fed into the system. The information system is physically installed at Government Integrated Data Centre (GIDC) under Department of Information Technology (DoIT). The system lacks the link with the demand side of the labor market and has limited access to only demand-side actors.

There are sustainability issues in labor market information process and system. Programs are continued till the support of the development partner. Once the external resources are withheld, the programs either slowly change track or fizzle out.

Conclusion

International experience suggests that a comprehensive labor market information system (LMIS) is the backbone of any successful education and employment strategy, but no single methodology or approach can generate sufficient knowledge of a given labor market to avoid or minimize skills mismatch between supply and demand. The right mix and complementary of different methods is essential for a reliable and comprehensive overview of skills demand and matching. There is no doubt that the private sector, as a major beneficiary of skills development, has a key role to play as a main partner in any labor market analysis. But the roles of the public sector, governments, and social dialogue platforms in skills anticipation, matching and provision of LMI are equally significant. Better matching between skills supply and demand has great positive effects not only for individuals looking for jobs or for up-skilling themselves but also for society at large and should be perceived as a public good to be reflected more strongly in public policies and investments. Thus, I conclude that ensuring meaningful engagement of employers is essential while conducting labor market analysis in all aspects, i.e. from planning to the drawing of the conclusion of LMI-survey, thereby paving the way for appropriate action to ensure a labor market, where demand and supply of qualifications and skills match each other.

Disclosure of Conflict of Interest

The views expressed in this article are the author's personal views, so they do not reflect the organization where the author works.

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Article

Declining Enrollment in Long-Term Engineering Programs: Stakeholders' Perspectives

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Abstract

This study investigates the declining enrollment in long-term engineering programs under the Council for Technical Education and Vocational Training (CTEVT) in Nepal, a critical issue affecting the development of skilled human resources and socio-economic transformation. The study analyzes enrollment data over the past 4 to 5 years and assesses enrollment trends. It also incorporates insights from focus group discussions and interviews with various stakeholders, identifies underlying causes of low enrollment, and proposes actionable recommendations. The findings reveal a multifaceted decline influenced by contextual factors, such as socio-economic conditions, the allure of foreign education, and the diminishing value of Technical and Vocational Education and Training (TVET). At an institutional level, issues include haphazard extension of TVET institutions, weakened instructional quality and inadequate industry linkages. Personal perceptions also contribute that vocational education is often seen as a less prestigious alternative to general education. The study's comprehensive analysis culminates in recommendations as suggested by the research participants focused on curriculum revision, strengthening industry linkages and enhancing the overall perception and quality of TVET programs. These insights are crucial for policy formulation, educational reforms, and aligning TVET with industry needs and student aspirations in Nepal.

Keywords: TVET enrollment, diploma in engineering, educational environment, decreasing enrollment, stakeholders' perspectives

Introduction

The Technical and Vocational Education and Training (TVET) is recognized globally as a pivotal force in developing skilled and competent human resources essential for social and economic transformation (OECD, 2012). It strategically equips young individuals with necessary occupational skills to pursue specific professional careers. In Nepal, this vision aligns with the fifteenth periodic plan, which aspires to lay a robust foundation for economic prosperity from 2019/20 to 2023/24 by focusing on creating accessible modern infrastructure, developing and fully utilizing human capital potential,

Note: The research paper is based on the study performed under the leadership of the Author and the report presented to CTEVT in July 2023.

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enhancing production and productivity and achieving high and equitable national income (National Planning Commission [NPC], 2020). To fulfill this ambitious vision, the production of competent human resources is indispensable.

The Council for Technical Education and Vocational Training (CTEVT), as the apex body in Nepal, is entrusted with the critical responsibility of designing, implementing, and regulating TVET programs. CTEVT's role encompasses formulating policies, developing program standards and curricula, and overseeing coordination, accreditation, monitoring and supervision (CTEVT, 2019). With a network of over 1,200 affiliated and constituent technical institutions across the nation, CTEVT boasts an annual enrollment capacity of approximately 80,000 students. However, in recent days, enrollment, particularly in long-term engineering programs, is only half of its capacity (CTEVT, 2020). This underutilization raises pressing questions on the factors contributing to the declining interest in these programs and underscores urgency for a study.

This research is therefore aimed at understanding the decline in enrollment in CTEVT's long-term engineering programs at both pre-diploma and diploma levels. It seeks to uncover the multifaceted reasons behind this trend, understand various stakeholder perspectives on their recommendations to reverse this downturn. To achieve these aims, the study poses three main research questions: What has been the enrollment trend in these programs in recent years? What are the underlying causes of this decline? And, what do TVET stakeholders foresee for addressing these challenges and improve enrollment rates? The answers to these questions are vital for formulating effective strategies to enhance the appeal and effectiveness of TVET programs in Nepal, ensuring they align with industry needs and student aspirations. The paper presents the review of two CTEVT engineering curricula and literature on attraction to TVET, outlines the methodological approach, presents findings and discussions, and concludes with a summary of insights and recommendations.

Understanding Situation: Review of Engineering Curricula and Attractions to TVET

The review is divided into an analysis of the CTEVT engineering curricula at both diploma and pre-diploma levels and a broader examination of the factors influencing student attraction towards TVET programs. This review lays a foundational understanding of the current state of TVET, facilitating further analysis and recommendations.

Reviewing CTEVT Diploma Level Engineering Curricula

Presently, there were 17 diploma level engineering curricula in CTEVT. The teacher-student ratio for theory and tutorial classes is set at 1:48. For practical and demonstration settings, the ratio is reduced to 1:12, and for bench work, it is further reduced to 1:8 although this can slightly differs in some subjects. Various instructional media and materials are prescribed, including printed media, non-projected and projected materials as well as audio-visual and web-based instructional materials to cater to diverse learning styles.

The program coordinator is required to hold

a master's degree in the related subject area. Disciplinary subject-related teachers should have a bachelor's degree in their respective subject areas, and instructors responsible for practical instruction should have a bachelor's degree or equivalent qualification along with a minimum of 3 years of work experience. The evaluation of students includes regular formative evaluations and final summative evaluation, ensuring a proper understanding of their knowledge and skills.

Reviewing CTEVT Pre-Diploma Level Engineering Curricula

At present, there were 10 pre-diploma level engineering curricula in CTEVT. The pre-diploma level curricula focus on providing education and practical training. The lead instructor is required to hold a bachelor's degree, while assistant instructors should have a diploma level qualification. Practical assistants or teaching aids should have completed Technical School Leaving Certificate (TSLC) with relevant work experience. The teacher-student ratio for theory classes is 1:40 and for practical sessions, it is 1:10.

Effective communication and instructional skills are emphasized for all staff members. A range of instructional media and materials are recommended similar to the diploma level. The curriculum promotes inductive, deductive and learner-centered approaches to learning. Students must pass all internal assessments to be eligible for the final examination which includes practical performance, logbook/portfolio maintenance, viva-voce examinations and institutional practicum attendance.

Comparing diploma and pre-diploma level curricula, the diploma programs are more advanced and theory-intensive than that of pre-diploma programs. They are designed to provide a higher level of knowledge with basic skills in specific engineering disciplines. The pre-diploma programs, however, are foundational and aim to prepare students for entry-level positions or further education at the diploma level. Although both levels emphasize practical skills and hands-on learning, the pre-diploma programs are more skills focused.

Attraction of Students Toward TVET Programs

The TVET grapples with an image problem universally despite its critical role in fostering skilled workforces. While higher education, particularly in fields like science and technology, is often viewed favorably in societies, such as Nepal (Dhamala et al., 2021), TVET frequently encounters comparison challenges with academic education pathways (Billett, 2018). Contributing factors to TVET's diminished image include perceived poor quality, weak industry connections, social stigma, cultural barriers and a shortage of qualified instructors. Addressing these challenges, UNESCO-UNEVOC orchestrated a virtual conference on "Improving the image of TVET," drawing participants globally to deliberate on the influencing factors, effects and youth perspectives on TVET, underscoring the imperative for collaborative efforts and knowledge dissemination in upgrading TVET's reputation (Billett, 2018).

In regions experiencing economic transitions, such as Saudi Arabia's shift from an oil-based to an investment-driven economy, the demand for skilled labor has surged, illustrating the

evolving role of TVET (Aldossari, 2020). However, historical preferences for white-collar roles over TVET paths underscore deep-seated cultural stigmas. A study among Saudi TVET students reveals a significant interplay between TVET perceptions and variables like gender, family income and parental education levels (Aldossari, 2020). Similarly, factors influencing student attitudes towards TVET were explored in Ethiopia, revealing substantial correlations between demographic factors, knowledge, motivation, and the chosen TVET stream. The study emphasizes the collective role of government, TVET authorities, and communities in elevating TVET's stature and quality (Mohamed, 2022).

Within Nepal, disciplines, such as Geography Subject in Dhankuta have demonstrated fluctuating enrollment rates, influenced by broader factors including educational policies and economic changes (Linkha, 2021). These instances reflect the broader context within which TVET operates, and it is marked by fluctuations and external influences that impact student enrollment and perception.

Summarizing Literature Review

In synthesizing the review of CTEVT engineering curricula and the broader factors influencing student attraction towards TVET programs, it is evident that while structured curricula and focused instructional strategies form the backbone of technical education, the broader image and perception issues significantly impact student enrollment. The curriculum integrates diverse instructional methods, practical training, and sound evaluation processes at both diploma and pre-diploma levels, ensuring a robust educational framework. However, the global struggle with TVET's image, exacerbated by socio-cultural biases, quality concerns and industry disconnections, highlights the need for a multifaceted approach. Addressing these challenges through policy reforms, industry collaborations and image-building efforts is crucial to enhance TVET's appeal and effectively harness its potential in building a skilled workforce (Bhandari, 2023). This understanding paves the way for a more nuanced approach to improving TVET's attractiveness and aligning it more closely with national and global development goals.

Methodology

The research employed both quantitative and qualitative methodologies to analyze enrollment trends and exploration of the reasons in CTEVT long-term engineering programs. The quantitative part of the study analyzed enrollment data from the CTEVT database over the past five years, focusing on diploma and pre-diploma levels to discern patterns and trends (Creswell & Clark, 2017).

For obtaining qualitative information to explore the underlying reasons affecting enrollment, initially, the field work centered around the Kathmandu Valley of Bagmati province. Later on, the study expanded to other two provinces: Lumbini, and Madhesh. This broader scope facilitated the inclusion of diverse perspectives through eight focus group discussions (FGDs) (Table 1) and 25 interviews with a range of stakeholders including TVET experts, industry representatives, administrators, students, and guardians (Table 2). Participants were selected through purposeful sampling and engaged using semi-structured

questionnaires, ensuring a rich and varied collection of insights (Patton, 2015).

Data from FGDs and interviews were meticulously recorded and transcribed selectively (Jack, 2008; Leavy, 2015) with a subset being noted for analysis. Thematic analysis was employed to sift through the data, categorizing it into themes that reflect the reasons behind the declining enrollment trends. This thematic organization drew from a blend of the researchers' contextual understanding, literature review, and the perspectives offered by participants (Braun & Clarke, 2006).

Ethical considerations were deeply ingrained in the research process. All participants were requested for permission, and pseudonyms used to maintain anonymity and respect cultural sensitivities (Bryman, 2016). The research was conducted with utmost regard for the participants' rights and well-being, reflecting the ethical standards necessary for a study of this nature.

The research methodology, grounded in quantitative analysis and enriched by a qualitative case study approach, provided a nuanced understanding of the enrollment trends in CTEVT engineering programs. It balanced statistical trends with in-depth personal and contextual insights while upholding strict ethical standards to offer a comprehensive view of the factors influencing enrollment in these programs.

Table 1

Information on Focus Group Discussions

S. No	Institution Type	Area/Province	Positions of participants	Number of participants
1	CTEVT constituent TVET institution	Nepalgunj/Lumbini	Vice principals, departmental heads and instructional staff	10
2	CTEVT affiliated private TVET institution	Nepalgunj/Lumbini	Founder, principal and instructors	4
3	CTEVT affiliated private TVET institution	Nepalgunj/Lumbini	Students of civil engineering program	33
4	General school running 9-12 class CEHRD programs	Nepalgunj/Lumbini	Class-11 students	17
5	General school running TECS program	Kathmandu/Bagmati	Students, graduates and guardians	10
6	General school running TECS program	Kathmandu/Bagmati	Principal, departmental heads and instructors	7
7	CTEVT affiliated private institution	Butwal/Lumbini	Founders and principal	4
8	CTEVT constituent TVET institution	Bardibas/Madhesh	Principal, departmental heads and instructors	11
			Total	96

Interview process was streamlined, ensuring that relevant topics were covered consistently across the interviews.

Table 2

Information on Interviewed Research Participants

S. No	Category	From (Institution/location)	Nos
1	TVET Experts	Available in Kathmandu Valley	4
2	Representatives from Business/ Industry	Engineering construction industry from Kathmandu Valley-1 Civil engineering Consultancy from Kathmandu Valley-1 Mechanical engineering from Lumbini Province-1 Civil construction and consultancy from Madhesh Province	4
3	TVET Administrators	Official from CTEVT Examination-1 Official from CTEVT Provincial Office-1 Principal of constituent technical school-1 Coordinator of TECS School-1	4
4	Engineering Program student/ graduates	Graduate from constituent school of Kathmandu Valley-1 Graduate from TECS school in Kathmandu Valley-1 Present student of constituent school in Kathmandu Valley-1 Present student of TECS school in Kathmandu Valley-1	4
5	General school students	Tenth grade students from general school without CEHRD programs-2 Tenth grade students from technical stream of CEHRD-3	5
6	Guardians of students/graduates	Guardian of a graduate from constituent school in Kathmandu Valley-1 Guardian of a graduate from TECS school in Kathmandu Valley-1 Guardian of a graduate from constituent school out of Kathmandu Valley-2	4
		Total	25

By combining quantitative trend analysis with qualitative case studies, the research methodology offers an examination of the factors influencing enrollment trends in CTEVT engineering programs. The integration of these approaches not only provides a deeper understanding of the issue but also contributes to the development of informed, contextually relevant recommendations for enhancing the appeal and effectiveness of TVET programs in Nepal.

Enrollment Situation: Trends and Reasons

This section of this research paper delves into the critical analysis of student enrollment trends within long-term engineering programs offered by the CTEVT in the last five years. Drawing on a database from CTEVT, this part aims to uncover the underlying patterns and shifts in enrollment figures, providing a nuanced understanding of the dynamics influencing these trends. By focusing on the

quantitative trajectory and the qualitative reasons behind these enrollment figures, this section offers a detailed exploration of the factors driving student decisions and the broader implications for technical education in the region.

Decreasing Enrollment Trend in Engineering Programs

The research focused on understanding the enrollment trend in long-term engineering programs of CTEVT over the past four to five years based on the data obtained from CTEVT. The findings reveal variations and enrollment patterns across diploma and pre-diploma level programs, indicating both stability and changes in the popularity and demand for different engineering disciplines.

Enrollment Trend for Diploma-Level Engineering Programs

The analysis of diploma-level engineering programs showed a diverse range of trends (Table 3). Architecture Engineering experienced fluctuating enrollment numbers, suggesting variable popularity and demand over the years. Automobile Engineering displayed substantial growth initially, with a slight decline in the most recent year, indicating a rising but potentially plateauing interest. Other programs like Biomedical Equipment and Civil and Electronics Engineering showed their unique trends, some experiencing fluctuations while others saw gradual growth or decline. Civil Engineering, in particular, remained a consistently popular program although it showed a declining trend, which suggests sustained interest but possibly emerging issues affecting enrollment.

Table 3

Enrollment in CTEVT Diploma Level Engineering Programs

Year	2075 BS (2018-2019)			2076 BS (2019-2020)			2077 BS (2020-2021)			2078 BS (2021-2022)			2079 BS (2022-2023)		
Program	Quota	Ent-rance	Regist-ration	Quota	Ent-rance	Regist-ration	Quota	Ent-rance	Regist-ration	Quota	Ent-rance	Regist-ration	Quota	Ent-rance	Regist-ration
Agriculture	-	-	-	-	-	-	-	-	-	-	-	-	96	56	47
Architecture	144	79	64	336	115	121	432	265	168	432	188	140	528	170	113
Automobile	96	312	58	408	236	122	904	666	336	904	634	317	952	372	261
Biomedical	-	-	-	-	-	-	-	-	-	-	-	-	48	32	27
Biomedical Equip-ment	24	41	24	24	45	24	24	49	24	24	63	24	24	54	24
Civil	5465	10718	4439	8674	10967	5311	9634	17273	7404	9826	15520	6727	11410	9424	5289
Civil (Hydro-power)	48	125	48	144	103	45	240	217	127	288	294	135	528	197	146
Computer	1520	1346	752	1920	1364	780	2256	1860	972	2256	1862	1000	2832	1709	932
Electrical and Elec-tronics	48	126	48	96	107	116	144	343	171	144	273	174	384	175	99
Electronics	384	97	48	384	89	26	384	34	28	384	26	17	384	32	19
Geomatics	232	848	373	1144	1526	757	1672	2712	1298	1720	3133	1429	1280	1962	1182
Information Tech-nology	240	133	98	616	371	220	1032	836	478	1032	1036	487	1280	988	605
Total	8201	13825	5952	13746	14922	7522	16722	24254	11006	17010	23028	10450	18794	15171	8744

Based on the data collected from CTEVT

Table 4

Enrollment in CTEVT Pre-Diploma Level Engineering Programs

Year	2076 (2019-2020)			2077 (2020-2021)			2078 (2021-2022)			2079 (2022-2023)			Remarks
Program	Quota	Entrance	Registered	Quota	Entrance	Registered	Quota	Entrance	Registered	Quota	Entrance	Registered	
Automobile	346	225	171	306	367	168	306	345	162	345	294	159	
Automobile (Apprenticeship)	N/A	166	162	N/A	203	75	N/A	94	46	N/A	559	243	
Civil	5830	3609	3215	6670	5399	2732	6710	3859	2033	13780	2757	1413	
Civil (Apprenticeship)	N/A	0	0	N/A	N/A	N/A	N/A	62	37	N/A	525	260	
Computer	1640	1172	1135	1840	1717	1009	1840	1610	975	2040	1585	916	
Electrical	2345	1360	1150	2465	1451	790	2465	1192	691	2745	1134	688	
Electrical (Apprenticeship)	N/A	219	215	N/A	480	174	N/A	171	75	N/A	380	187	
Electronics	66	26	26	52	43	20	52	29	23	52	41	37	
IT (Apprenticeship)	N/A	228	228	N/A	179	65	N/A	53	30	N/A	705	250	
Mechanical	323	163	116	323	189	109	313	218	104	363	138	82	
Mechanical (Apprenticeship)	N/A	193	193	N/A	274	116	N/A	196	91	N/A	367	150	
Refrigeration and AC	24	50	50	24	33	25	24	32	24	24	34	24	
Surveying	1328	1145	1113	1280	1911	887	1280	1869	879	1320	1356	620	
Water Supply	75	11	10	115	28	21	115	14	11	115	8	0	
	11977*	8567	7872	13075*	12274	6221	13115*	9744	5325	20784*	9883	5029	

Based on the data collected from CTEVT

*Total quota is seen except for apprenticeship programs

Enrollment Trend for Pre-Diploma Level Engineering Programs

The pre-diploma level engineering programs also displayed a mix of stability and fluctuations (Table 4). Civil Engineering and Surveying witnessed significant changes in enrollment numbers, indicating varying levels of student interest over time. Some programs demonstrated relative stability, while others like Automobile and its Apprenticeship counterpart showed notable peaks and declines. The overall trend suggests that while certain programs maintain steady interest, others are subject to changing student preferences, market demand, and possibly other external factors.

Implications of the Enrollment Trends

The observed enrollment trends raise several implications. Firstly, the fluctuating and sometimes declining numbers in specific programs could reflect broader shifts in the job market, technological advancements, or changes in educational policy and student perceptions. For consistently popular programs like Civil Engineering, the declining trend might indicate emerging challenges or saturation in the field. Secondly, the variations in program popularity could inform CTEVT's strategic planning, curriculum development, and marketing efforts to align with current and future market demands.

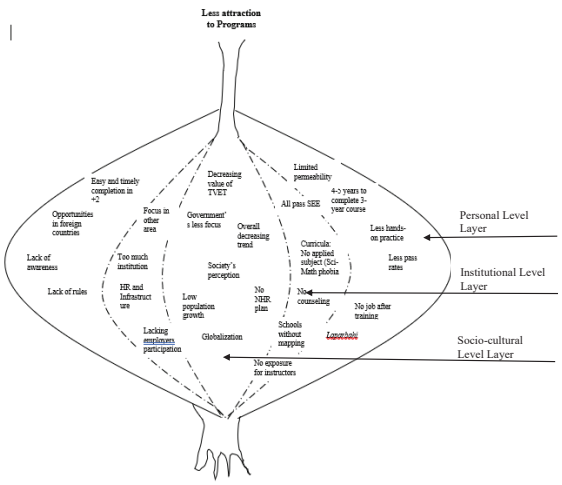
While the quantitative data provide a clear picture of the trends, there's a need for further qualitative analysis to understand the reasons behind these patterns. Understanding students' decision-making processes, industry needs, and the quality of the programs will be crucial in addressing the dwindling interest. Interviews with students, educators, and industry representatives could shed light on these aspects, providing a clear understanding of the reasons influencing enrollment trends.

Why Enrollment in Some TVET Engineering Programs Decreasing?

This section explores the multifaceted reasons behind the declining enrollment in CTEVT Engineering programs informed by insights from interviews, focus group discussions, and meetings with research participants. Utilizing a qualitative case study approach, the findings are conceptualized within the metaphor of "Onion Layers," revealing contextual, institutional and personal reasons (Figure 1). The intent of the picture as onion is that most visible and widespread reasons are in personal level and then the major reasons are institutional (as middle layer of an onion). The socio-cultural reasons are the real crux which is also the reason for other two layers of reasons—institutional and personal.

Figure 1

Layers of the Reasons for Decreasing Enrollment: An Onion Metaphor



Contextual Reasons: Socio-Cultural Environment at the Core

The socio-cultural context significantly impacts the fading attraction to CTEVT engineering programs. Research participant, Kunti, a guardian of a graduate of CTEVT diploma engineering program (from a constituent institute in Kathmandu Valley), and Kiran, TVET expert working in an international organization, identified a lack of domestic opportunities leading Nepali students to seek education and employment abroad. As they stated it was influenced by a global mindset attaching more value with foreign education. Kiran further noted the declining societal value of engineers and the preference among urban youths for higher secondary (+2) level education pathways and fast-track education leading to opportunities abroad. Sundar, an owner of mechanical workshop in a city of Nepalgunj (Lumbini Province), and Ram discussed the lack of understanding about the potential of technical education and the higher income prospects overseas. These perceptions combined with the longer duration and perceived inferiority of TVET compared to general education obviously contribute to the downward enrollment trend.

The insufficient recognition and employment prospects further deter students (Adhikari et. al, 2023). Kanchan, a construction company owner with long TVET experience pointed out the limited job opportunities and the Public Service Commission's failure to recognize TVET qualifications adequately. Gajendra, a coordinator of a TECS School located in Kathmandu Valley, and Usha, a graduate of CTEVT diploma engineering program (from a TECS institute in Kathmandu Valley), highlighted exploitative employment practices and lower salaries for TVET graduates, while Parshuram and FGD-1 participants note the difficulty TVET graduates face in the job market. These factors collectively diminish the appeal of TVET engineering programs.

Entry qualifications also play a critical role in affecting TVET program results. Akash, a third-year student of CTEVT diploma engineering program (from a constituent institute in Kathmandu Valley, and Madhav, a senior official from CTEVT regional office discussed the implications of the SEE examination trend, where almost all students pass, diluting the pool of potential TVET candidates. Parshuram and FGD-5 participants note the declining quality of general schools and how this affects the preparedness of students entering TVET programs. Additionally, the intake criteria allow students with lower grades to enroll, leading to quality concerns among graduates.

The lack of proper implementation of visions and policies significantly hinders TVET growth and development. Kiran criticized the government's limited emphasis on TVET and the absence of clear policies and a national human resource plan. FGD-1 participants express dissatisfaction over government policies that do not support TVET aspirations. This systemic issue requires clear visions and policies to enhance the TVET sector's growth and development.

Some participants note the diminishing enrollment trend is not confined to the TVET sector. They view this decrease in enrollment as a natural occurrence to some extent, e. g. due to the decrease in population growth (The Kathmandu Post, 2021). So it is a broader educational issue, partially

attributed to demographic changes. This wider context is crucial for understanding the specific challenges within the TVET sector and developing targeted strategies to address them.

Institutional Level Reasons: Quality Concerns at the Core

Institutional level concerns within CTEVT's mandate significantly contribute to the lessening enrollment in TVET engineering programs. Parag, a TVET administrator working at CTEVT Headquarters, and others expressed concerns about the rapid, unplanned proliferation of TVET institutions, particularly TECS Schools, without considering actual demand and requirements. This haphazard extension, as Gajendra and Kanchan noted, leads to an imbalance between the number of graduates and job opportunities, diluting the quality of education (MoEST, 2022), and questioning the access and equity to TVET (Neupane, 2020). Participants in focus group discussions also express the negative impact of this saturation of the institutions and consequently the diminishing quality of TVET education.

Another critical issue is the weakening instructional quality in TVET programs. Lokendra, a TVET expert with more than four decades of TVET work-experiences, pointed out a significant performance gap, exacerbated by the dearth of qualified teachers. Gagan, a TVET expert and researcher with a solid work experience in TVET management and delivery, and Gajendra discussed the insufficiency of resources and infrastructure with some schools even operating in rented houses, severely impacting the learning environment. Kanchan and others criticized the curriculum for being overly theoretical, inadequately updated, and disconnected from industry needs, leading to graduates who are theoretically knowledgeable but practically incompetent.

Another significant concern is the lack of effective linkage between TVET programs and industries. Kanchan and Akkal, a managing director of an engineering consultancy and contractor company in Bardibas (Madhesh province) respectively, highlighted the weak industry connections, leading to ill-prepared graduates for the workforce. The FGD-8 participants stressed the near-absence of linkage between education and employment, badly limiting graduates' employment prospects.

Curriculum issues are a major point of contention. Raj, a graduate of CTEVT diploma engineering program (from a constituent institute in Kathmandu Valley), and Lokendra criticized the curriculum for not addressing essential skills like English language proficiency and for being too theory-focused. Parag and Kiran were concerned over the lack of involvement from relevant experts in curriculum development, leading to a curriculum that is disconnected to ground realities and industry needs. Mausam, a graduate of CTEVT diploma engineering program (from a TECS institute in Kathmandu Valley), and FGD-8 participants pointed out that the curriculum's focus on difficult subjects and insufficient practical skills contribute to high dropout rates and paucity of confidence among students.

The dearth of proper information dissemination, awareness raising, and

counseling further worsens the enrollment decline. Kunti, Kiran, and others noted the absence of counseling services and a general lack of awareness among students and parents about TVET programs and their benefits. This information deficiency leads to uninformed decisions and a decreased interest in TVET programs.

Weak administration and governance within CTEVT and its affiliated institutions are also to blame. Lokendra and Kanchan criticized the lack of technical experts in key positions and the outdated resource allocation system. The absence of tracer studies and the deficit of a system to motivate and reward instructors, as mentioned in FGD discussions, reflect a broader issue of weak governance that undermines the quality and attractiveness of TVET programs.

In summary, the institutional reasons contributing to the decreasing enrollment in TVET engineering programs are multifaceted, ranging from the unchecked growth of institutions and weakening instructional quality to inadequate industry linkage and curriculum issues. These combined with ineffective information dissemination and weak administration and governance paint a concerning picture for the future of TVET in Nepal. Addressing these issues requires a concerted effort from CTEVT and relevant stakeholders to ensure the quality and relevance of TVET education.

Personal Level Reasons: Perceptions and Awareness

Perceptions and awareness significantly influence students' choices regarding TVET programs. As Akash pointed out, the general perception is that traditional 10+2 education offers a more straightforward and quicker path to further studies than TVET courses, often seen as offering limited progression opportunities. This sentiment is compounded by the extended duration and perceived complexity of TVET courses compared to the prompter results of general education stream, as highlighted by Madhav. The high costs associated with private TVET institutions, as mentioned by Gajendra, also discourages potential students.

Additionally, the fear of failure is a substantial barrier. As Madhav noted, many students are apprehensive about complex subjects like English, Science and Math, contributing to high failure rates and further discouraging enrollment. A perceived lack of accountability within TVET institutions aggravates this fear. Akash and Sundar, and Manjita, a guardian of a CTEVT diploma first-year student (from a constituent institute in Nepalgunj, Lumbini province), expressed concerns over delayed result publications, irregular classes, and the overall weakening standards of education, highlighting an urgent need for reform (MoEST, 2023).

Feedback from various stakeholders, including Sundar and FGD session participants, reflects a broader concern over the lack of accountability and transparency in CTEVT's administration and governance. This perceived absence of responsibility impacts all levels, from result publication to instructional quality and management practices. Addressing these personal-level reasons is crucial to enhancing the attractiveness and effectiveness of TVET programs.

In summary, the decline in enrollment in TVET engineering programs is a

complex issue influenced by socio-cultural, institutional and personal factors. Addressing these challenges requires a robust strategy that considers the multifaceted nature of the problem, as suggested by the research participants.

Improvement in Enrolment Situation: TVET Stakeholders' Perspectives

By highlighting the interplay among improving instructional quality, establishing robust monitoring mechanisms, and intensifying information and communication efforts, this section underscores the solid efforts required to address the enrollment challenges TVET engineering programs face and pave the way for a more skilled and competent workforce.

Enhancing Overall Instructional Quality

Stakeholders call for an urgent overhaul of the TVET curriculum, suggesting regular updates and a shift to competency-based content to meet industry needs better (Kiran, Sundar). According to Nirjala, a principal of one of the CTEVT constituent schools located in Lumbini province, and Madhav, real-world expertise in curriculum development is deemed crucial, and the curriculum should be synchronized across various program levels for consistency. Regular revisions and an emphasis on practical skills over theoretical knowledge are highlighted as key to improving instructional quality (Usha, FGD-1).

A separate monitoring division within CTEVT is suggested by Kanchan and Gagan to oversee instructional activities and infrastructures, ensuring adherence to quality standards. Regular monitoring mechanisms are recommended to maintain and enhance program quality, with a focus on practical training and infrastructure adequacy (FGD-2, Nirjala). Similarly, Gagan and Rupa, TVET experts with a long work experience particularly in producing TVET instructors and trainers, stressed the importance of aligning TVET offerings with market demands and consolidating institutions to optimize resources. Gajendra suggested a thorough needs assessment to guide program offerings and eliminate redundant institutions. Collaboration between TVET providers and industries is crucial to ensure that graduates meet market needs (FGD-7: Puru, Managing Director of a structural engineering consulting firm in Kathmandu, Bagmati Province).

Strengthening industry linkages and partnerships with local communities is emphasized to enhance the relevance and effectiveness of TVET programs (Gagan, Kiran). Initiatives like internships, job fairs, and industry input in curriculum development are suggested to bridge the gap between education and employment (FGD-1, FGD-2).

Timely publication of results and a shift towards practical-focused assessments are recommended to improve the examination system (Gagan, FGD-1). Similarly, Parag and FGD-6 participants suggested decentralization of the examination process and empowerment of instructors to conduct assessments at the institutional level. Besides, other reforms in administrative processes, workforce updates, and the establishment of research units are recommended to address existing challenges and improve TVET's effectiveness (Gagan, Kanchan). Continuous

tracer studies, enhanced counseling services and improved job placement units are also suggested by Manjita, Sundar and Madhav to ensure graduates' successful transition to the workforce.

The suggestions from stakeholders provide a roadmap for improving enrollment in TVET engineering programs. By focusing on curriculum updates, quality monitoring, need-based institution establishment, strengthened industry linkages, examination system reforms, and institutional reforms, the TVET sector can enhance its appeal, relevance and effectiveness, ultimately attracting more students and meeting the evolving needs of the industry and the nation. This situation ultimately contributes to enhance the image towards CTEVT programs.

Restoring Image and Intensifying Information and Communications

The review reveals that the unchecked proliferation of TVET institutions has led to quality concerns, with insufficient market studies and a lack of proper planning leading to a surplus of graduates ill-equipped for the job market. Research participants like Parag and Gajendra expressed urgent need for a more strategic approach, emphasizing the importance of aligning institutions with real market demands. The instructional quality is also under scrutiny, with participants like Lokendra and Gagan highlighting a performance gap exacerbated by the dearth of qualified instructors and inadequate resources. The disconnection between TVET programs and industry needs, as noted by Kanchan and Akkal, further hinders graduates' employability, calling for strengthened linkages and more responsive curricula.

In the realm of personal perceptions, the attraction of foreign education, the undervaluation of technical certificates, and the preference for faster educational pathways like the +2 system are diminishing the appeal of TVET programs. As highlighted by Kiran and Gajendra, this trend is intensified by the societal stigma attached on vocational education and a general lack of awareness about the potential and opportunities it offers. The fear of failure, particularly in challenging subjects, and the perceived high costs of TVET education, as noted by participants like Madhav and Gajendra, further deter potential students. Moreover, a pervasive lack of accountability in the system, as pointed out by Akash and Sundar, undermines trust and confidence in the effectiveness of TVET programs.

To reverse these trends, stakeholders propose a multifaceted strategy focused on improving instructional quality and restoring the image of CTEVT. This includes updating and effectively implementing curricula to meet industry demands as suggested by Nirjala and Kiran, and establishing a robust monitoring system for better quality control as recommended by Gagan and Kanchan. Establishing need-based institutions and aligning human resource production with market demands, as emphasized by Gajendra and Akkal, is also crucial.

Simultaneously, efforts to restore CTEVT's image through intensified information and communication, as Kiran and Manjita advocated, are vital. This involves clearing negative perceptions, promoting the value of TVET, and ensuring widespread awareness of its benefits and opportunities. Participants also stress the importance of reforms

in examination systems, administrative processes, and enhancing industry linkages as Puru and FGD participants noted.

In conclusion, revitalizing the image of CTEVT and amplifying information and communication efforts are crucial for advancing TVET education as underscored by UNESCO (2018) and echoed by research participants. Through strategic and targeted advertising, massive orientation programs, effective counseling and sustained awareness campaigns, the public's understanding of the numerous benefits and opportunities provided by TVET programs can be significantly enhanced. Such concerted efforts are instrumental in attracting a greater number of students and nurturing a favourable perception of technical education in Nepal, thereby ensuring its pivotal role in national development and individual empowerment.

Conclusion, Implications and Limitations

Based on the research participants' expression and the analysis, this section provides the key findings and furnishes recommendations. It also presents the implications, limitations, and challenges faced during the research process.

Summary of Key Findings

This study has identified a complex interplay of contextual, institutional and personal factors contributing to the declining enrollment in CTEVT engineering programs. Contextually, students are deterred by limited local opportunities and drawn to the perceived advantages of foreign education and employment, while the diminishing value of TVET and preference for quicker educational pathways further exacerbate the issue. Institutionally, haphazard expansion of institutions, weakening instructional quality, insufficient industry linkages, and outdated curricula are identified as critical deterrents. On a personal level, negative perceptions and awareness of TVET, fears of failure, and concerns over financial burdens and job prospects significantly influence student decisions. These layered findings underscore the multifaceted nature of the enrollment challenge, calling for a nuanced and focused approach to address the issues identified.

Implications of the Study

The study's findings have significant implications for policy formulation and future research in the TVET sector. They provide a detailed understanding of the challenges faced, guiding policymakers in developing strategies to enhance the attractiveness and effectiveness of TVET programs. The insights can also direct future research towards unexplored areas, such as the impact of specific policy changes or the long-term trends in TVET enrollment. For TVET scholars, these findings enrich the academic discourse, while for general readers, they offer an in-depth understanding of the complexities of technical education in Nepal.

Challenges and Limitations of the Study

This study faced several challenges and limitations that must be acknowledged. Resource constraints limited the geographical scope and depth of the study, potentially affecting the representativeness and comprehensiveness of the findings. The availability of data for only a limited period limited the ability to perform an extensive trend analysis. The inability to include

all intended categories of students might have impacted the richness and variety of perspectives captured. Additionally, the broadened focus beyond specific engineering programs could have diluted the specificity of the findings. Recognizing these limitations is crucial in interpreting the study's findings and should be considered in future research efforts to enhance the comprehensiveness and accuracy of similar studies in the TVET sector.

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Article

Quality Assurance in West African TVET Institutions: A Brief Literature Review

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Abstract

The study reviews the role of quality assurance in Technical and Vocational Education and Training (TVET) systems in supporting economic development, enhancing labor market competitiveness, and meeting industry expectations. The authors use a desk research strategy, focusing on document review and qualitative content analysis to analyze credible reports on the role of quality assurance in TVET to promote competent workforce. As per findings, quality assurance in TVET institutions is crucial to ensuring that graduates possess the necessary skills and competencies for the workforce, reducing skills gaps and enhancing employability. It aligns TVET programs with industry standards, enabling graduates to contribute effectively to the workforce. Quality assurance mechanisms also enhance the credibility and reputation of TVET institutions, increasing their attractiveness to students and employers. It helps produce highly skilled individuals, contributing to the country's economic development and global competitiveness. However, the TVET sector in West Africa faces several challenges, including inadequate infrastructures, curriculum relevance, teaching and learning quality, limited industry collaboration, and lack of quality assurance mechanisms. To address these issues, the authors suggest some innovative dimensions of quality standards to strengthen and improve quality assurance in TVET institutions. These quality standards include leadership, governance, management, physical environment, human resources, curriculum, student participation, access, equity, career guidance, financial management, program evaluation, research, innovation and development. All of these are interrelated, thereby spurring the overall quality and effectiveness of TVET programs and institutions.

Keywords: quality assurance, TVET, competent workforce, TVET institutions, quality standards

Introduction

The Technical and Vocational Education and Training (TVET) is a crucial sector in education, with unique features that are central to the global economy's development (Gyimah, 2020). The discussion of knowledge acquisition, skills development, skills shortages, employment, employability and unemployment are closely related to TVET

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not only in Africa but also worldwide (South African Qualifications Authority, 2016). Therefore, giving prime attention to TVET is essential for any economy aiming to achieve sustainability in its national development (Gyimah, 2020). TVET holds particular importance for African development due to high rate of youth unemployment in the continent. This has led to frustration among a large section of the population, as the African countries' economies lack capacity to absorb millions of young people entering the workforce each year (African Development Bank, 2016). The ADB report further elucidated that 10 to 12 million youth enter the labor market annually, but only 3.1 million jobs are created, which is insufficient to meet the employment needs of the African youths, implying that less than one-third of the African employable population is absorbed into the public sector.

This particular situation of unemployment in Africa underscores the justification of this paper, as it highlights the importance of quality assurance in TVET in order to ensure that individuals are equipped with the skills necessary for self-employment and potentially employing labor in their private businesses, thereby reducing unemployment rates within the continent (Afeti, 2018). The emphasis on self-employment is very pertinent as the future of employment in Africa has been described as bleak, with an estimated 263 million African youths lacking economic opportunities by 2025 (African Development Bank, 2016). If the future of employment in Africa will depend so much on self-employment of TVET graduates, it thus becomes crucial for TVET institutions to closely monitor and enhance the standards of its input and process in order to produce graduates with skills that are marketable and capable of creating wealth, generating jobs and sustaining nation's economy (Okoli & Okoli, 2021). Okoli and Okoli (2021) further identified certain factors as essential to ensuring quality assurance in TVET institutions, including the setting and execution of necessary plans and policies, and the monitoring supervision and evaluation of standards to secure access to adequate teaching and learning facilities, and the application of effective instructional approaches among TVET instructors.

Several African countries, including Botswana, Ghana, Kenya, Malawi, Namibia, Rwanda, Tanzania, Uganda, and South Africa, have recognized the importance of TVET to national development and are now investing in and encouraging skill acquisition development among youths (Afeti, 2018). However, the TVET sector in many Sub-Saharan countries is not performing optimally due to various factors, such as its small size, impracticability of programs, mismatch between programs and labor market needs, inadequate infrastructure and low outputs (Eicker, Haseloff, & Lennartz, 2017). To fully reap the benefits of the TVET sector in their economies, African countries need to address these challenges that impede both the impartation and acquisition of TVET programs through constant application of quality assurance measures to TVET institutions in order to achieve best practices. It is crucial for fully developing and revitalizing the TVET sector to stimulate economic growth in the continent. Efforts should also extend beyond formal school or college settings to include training centers in private workshops within the informal sector. In addition, TVET encompasses

education, training, and skills development across a broad spectrum of occupational fields, production, services and livelihoods (UNESCO, 2016b). Its significance lies in its provision of knowledge and skills for employment through formal, non-formal, and informal learning. TVET is viewed as an approach to training and skill development aimed at imparting market-relevant competencies to trainees, thereby producing work-ready graduates. This recognition underscores its role as a vital driver of social equity, inclusion, and sustainable development.

In order to achieve optimum results in and reap the full benefits of TVET in a system, specific processes and procedures are necessary to ensure that TVET provisions, management, curriculum design, and development adhere to specified quality standards. Quality standards in TVET programs, like in every other educational sector, have been directly linked to the quality of their graduates. (Okoli & Okoli, 2021). These quality standards are essential for each TVET institution to achieve the expected quality training and job prospects. The intention behind these standards is to enhance the institution's quality and integrate them into the institution's objectives. This necessitates the need for the development and implementation of local and international quality assurance measures for the achievement of standards and qualifications comparability in African countries (Mutebi & Ferej, 2023). This paper is a review of the literature on quality assurance in West African TVET institutions. This brief literature review aims to provide insights into the current landscape of quality assurance in TVET institutions across the West African countries with a focus on Nigeria, Benin and Ghana. By examining existing literature, this article seeks to identify key challenges, best practices, and opportunities for enhancing the quality assurance frameworks within the region's TVET sector.

Literature Review

In this section, a comprehensive desk research review is done on TVET in Africa focusing on document review and qualitative content analysis of relevant reports on the role of TVET quality assurance in promoting competent workforce in West Africa. The purpose of this literature review is to gain insights of the meaning and purpose of quality assurance, its importance, and its contribution to economic development and labor market competitiveness.

Meaning and Purpose of TVET Quality Assurance

According to UNESCO-UNEVOC (2013), quality assurance in TVET institutions refers to the systematic process of ensuring that the education and training provided meets specified standards of quality. The overarching purpose of quality assurance in TVET is to enhance the relevance, effectiveness, and credibility of vocational education and training programs (Lopez, 2012). This includes confirmation that graduates are equipped with necessary knowledge, skills, and competencies to meet the demands of the labor market and contribute to economic development. As emphasized by UNESCO-UNEVOC (2013), important aspects of quality assurance in TVET institutions comprise relevant curriculum, skilled teaching staff, sufficient learning resources, industry connections

and effective assessment systems. Through quality assurance mechanisms, TVET institutions seek to maintain and improve the quality of education and training they provide, ultimately spurring overall development of a skilled workforce (Lopez, 2012). By adhering to established standards and continual improvement, TVET institutions can uphold their commitment to delivering high-quality vocational education. However, for the past years, Nigerian TVET programs are faced with numerous challenges that have been affecting the quality of TVET programs both in output and input (Afred & Kayoma, 2012; Oganwu, 2011; Okoye & Okwelle, 2013; Onyesom & Ashibogwu, 2013; Uwaifo & Uwaifo, 2012 as cited in Ayonmike, 2015). The federal government of Nigeria has pushed educational institutions to design their curricula with a focus on vocational relevance in order to produce graduates with necessary skills for self-employment and self-relevance (Igwe et al., 2013).

Importance of TVET Quality Assurance

Quality assurance in TVET institutions holds immense significance for several compelling reasons. Firstly, quality assurance measures are essential for ensuring that graduates from TVET institutions possess required skills and competencies that industry and the workforce demand. This leads to reducing skills gaps and enhancing employability (Hager, 2015). Secondly, such measures are crucial in ensuring that TVET programs are aligned with current industry needs and standards, thereby enabling graduates to prompt the workforce upon completion of their studies (European Centre for the Development of Vocational Training [CEDEFOP], 2017). Thirdly, quality assurance mechanisms enhance credibility and reputation of TVET institutions, both domestically and internationally, thereby increasing their attractiveness to students and potential employers (Froy, Giguère, & Thakur, 2015). Lastly, with a focus on quality, TVET institutions can produce highly skilled individuals who can contribute to country's economic development and global competitiveness (UNESCO-UNEVOC, 2018a). In short, quality assurance helps TVET institutions and parent organizations develop and measure their performance, strengthening societal confidence in educational quality and services. These standards facilitate decision-making on financial allocations, provide quality information to learners, parents, companies, and the government; and enhance transparency, equity and accountability in education, particularly for public institutions.

We have typically noted that in Africa, graduates of TVET programs gain expertise in specific disciplines, but they are not prepared to use that information in real-world situations outside classroom. The notion of quality has been one of the most significant concepts in modern educational terminology (Zelvys, 2004 as cited in Ayonmike, 2015). Thus, the study is emphasizing the quality output aspect that is rendered to graduates in TVET. According to Oyebade, Oladpo, and Adetoro (2012 as cited in Ayonmike, 2015), factors that boost quality of education include effectiveness and caliber of the teachers; the availability and sufficiency of the resources and facilities required for efficient teaching and learning; and the degree to which the graduates are equipped to handle life's challenges and address societal issues.

TVET Quality Assurance for Economic Development and Labor Market Competitiveness

TVET is a type of specialized education that aims to empower students by enhancing their human potential, technical proficiency, cognitive comprehension, attitudes, and work habits; thus, it plays a key role in supporting economic development, the creation of national wealth, and contributing to poverty reduction (Schneider, 2012). According to UNESCO (2016a), to address the growing expectations of industries, continuous enhancement of TVET quality should remain a priority. TVET systems are widely considered to be dependent on quality development. As such, quality development plays a critical role in fostering trust among TVET stakeholders, enhancing the TVET brand, and persuading businesses and industries to actively participate in TVET systems and hire TVET graduates. Thus, stakeholder demand for the development of quality assurance procedures to establish standards and standardize TVET has increased significantly (Hoque, 2016). In the context of Asia-Pacific integration, quality assurance in TVET has, in recent years, become a significant element in the efforts to promote regional labor mobility and build a more integrated regional labor market.

We postulate that TVET plays a vital role in the economy by creating a sufficient number of middle-level professionals. To this end, it is imperative for countries to build a modern, strong, and efficient TVET system, as the goal is to produce competent workers whose skills are evaluated and matched to industry-driven, globally recognized benchmarks for occupational competence. According to Budu-Smith (2005 as cited in Chukwuedo, 2015), national progress would essentially come to a standstill without the skilled technical manpower generated by the polytechnic, technical, and vocational institutes for industry, commerce and agriculture. The program's ultimate goal is to educate and train competent graduates in all sectors of the economy who are prepared to grasp innovations and technology needed to create jobs, entrepreneurship and wealth (Reinsch & Nyangweta, 2023). One of the TVET system's main responsibilities is to collect data on labor market. In order to do this, techniques for interviewing employers must be created. Then, based on data from the job market, training programs for recent graduates, employee upskilling, and student attendance at TVET schools and other training organizations must be directed (Hoque, 2016).

According to Kenya National Qualifications Authority (2018), TVET quality relates to the achievement of the outcomes and competences (knowledge, skills and attitudes) in meeting needs and expectations. All TVET institutions' internal quality assurance and quality management systems must be used in conjunction with external quality assurance (Reinsch & Nyangweta, 2023). TVET is one of educational programs tasked with creating necessary and demand-driven industrial/technological labor force for Nigeria (Ahobee, n.d.; Musa & Okorieocha, 2012; Ansah & Kissi, 2013; Okorieocha & Duru, 2013 as cited in Chukwuedo, 2015). However, despite its significance, quality is a difficult word to define and quantify in TVET in particular and in education in broader. Education quality is an elusive concept and a dynamic idea. It's the quality that transpires during the delivery process as well as during

the process of interaction between the trainer and the trainee (Reinsch & Nyangweta, 2023).

The figure below describes graduate competence with the “Ability Model”. Here, "ability" refers to the trainee's or graduate's capacity to operate in accordance with particular industry standards for their line of work. The model illustrates how aptitudes and competencies interact to enable production of goods and services. Thus, as seen on the left, quality assurance must take into account every facet of individual capacity.

Figure 1

Quality Assurance and the 4P Ability Model

(Source: Reinsch & Nyangweta, 2023)

Hoque (2016) indicated that outcome-oriented quality assurance ought to be founded on the needs of the nation's employers. Information, priorities, occupational areas, and supply and demand curves are all necessary for a trustworthy labor market. Whereas, technological innovation makes it possible to develop goods and services of higher quality. Market-driven necessitates cooperation and coordination with employers. It is important that domestic industries play an integral role in the TVET system so that training is in line with the demands and TVET students can be integrated into their workforce. These days, it's critical to focus on quality assurance, as it cultivates highly skilled workers that can handle any challenge in an African environment. As a result, they are able to fill the nation's employment demands- both domestically and abroad (Hoque, 2016). According to Imogie (2014 as cited in Chukwuedo, 2015), without an efficient and productive educational system, no country can reach its full potential and stay up to date with scientific and technological advancements.

Methods

This paper aims to assess current state of quality assurance frameworks, identifying key challenges impacting effectiveness, exploring best practices and innovative approaches, and recommending strategies for strengthening and improving quality assurance in these institutions. The review also explores best practices and innovative approaches employed in the region mainly in Benin, Ghana and Nigeria to enhance quality of TVET programs. To collect relevant information, we examined current literature dating back ten (10) years, encompassing academic journals, government reports, policy documents, and pertinent publications from international organizations concerning quality assurance in West African TVET institutions. Likewise, relevant literature and documents were chosen based on their date of publication, relevance to the research topic, and the credibility of the sources (Cohen et al., 2018). Information was also obtained from electronic databases and the websites of prominent organizations

and institutions involved in TVET quality assurance (Creswell & Creswell, 2023). A time period of 10 years ago, the literature was selected to argue the article views and presentation. Various credible sources were utilized as clearly referenced- the sources that are cited were selected as the sources fit the study and gave deeper knowledge and understanding in supporting the article views. Additionally, the sources help in examining the importance of additional research. Several sources that were analyzed were studied chronologically, starting with the earliest publication and to the most recent to identify arguments and facts. After making a note of significant points, themes and concepts were arranged. The data gathered were thematically analyzed to identify the essential quality assurance standards for effective and efficient TVET institutions. The study, thus, relied on secondary sources of data for its related literature.

Findings and Discussion

The findings underscore the essentiality of TVET in creating a skilled and competent workforce to meet the needs of both domestic and international labor markets, thereby contributing significantly to national progress and global competitiveness. In this regard, we present the current state of TVET quality assurance, best strategies, key challenges and strategies for strengthening and improving TVET quality assurance in West Africa.

Current State of TVET Quality Assurance in West Africa

We notice nowadays that TVET quality assurance situations in West African countries vary from one country to another and are subject to ongoing development and refinement. In general, several West African countries have established and are in the process of setting up national quality assurance agencies, specifically tasked with overseeing and regulating the quality of TVET provision (Aryeetey, 2019). These agencies are responsible for defining standards, conducting program evaluations, accrediting institutions, and monitoring compliance with prescribed quality criteria. Similarly, in most countries, quality assurance frameworks often involve mechanisms for industry engagement and validation to ensure the relevance and currency of TVET programs (West African Quality Assurance Network [WAQAN], n.d.). This includes the establishment of industry advisory boards, regular consultations with employers, and the integration of industry-recognized certifications or standards into vocational curricula. In countries like Nigeria, Benin and Ghana, we realize that the frameworks are not similar but they ensure effectiveness and relevance of vocational education and training programs. These frameworks include the National Vocational Qualification Framework (NVQF) in Nigeria, which standardizes and recognizes qualifications across different TVET providers, promoting consistency and quality in vocational education and training (Ndukwe & Allen, 2018). In Ghana, the TVET Quality Assurance System monitors and evaluates the quality of vocational education and training programs, including the development of standards, accreditation processes, and regular assessments (Darteh, 2018). However, in Benin, the National Agency for the Promotion of Vocational Education (ANPE) plays a key role in promoting and regulating TVET programs, developing and

implementing quality assurance measures, including curriculum standards, instructor qualifications and assessment protocols (Nouatin et al., 2019). In these three West African countries, collaborative efforts among TVET institutions and industry stakeholders have led to the development of industry-relevant certification programs and standards, ensuring that TVET programs align with current industry needs and equip students with skills in demand (WAQAN, n.d.). Similarly, regulatory bodies and accreditation agencies oversee and enforce quality standards in TVET institutions, conducting accreditation processes, institutional audits, and quality assurance reviews (Igwe et al., 2013). Moreover, collaboration with international organizations and donors often supports the development and implementation of TVET quality assurance frameworks through funding, technical assistance and knowledge sharing (Oduaran & Bierema, 2015). These examples illustrate various approaches and initiatives aimed at enhancing TVET quality assurance in the West African countries, ultimately contributing to the improvement of vocational education and training programs in the region (Korter, 2023). Furthermore, quality assurance frameworks encompassed the formulation and dissemination of clear quality standards and criteria against which TVET institutions and programs were assessed (Okorafor & Nnajiofo, 2017). These standards often encompassed aspects, such as infrastructure, teaching staff qualifications, curriculum relevance, student support services, learning outcomes, and links to the labor market. Finally, we notice that efforts towards regional harmonization of TVET quality assurance frameworks were observed through collaborative initiatives between West African countries. Regional bodies such as ECOWAS (Economic Community of West African States) played a role in promoting alignment, mutual recognition of qualifications, and the exchange of best practices to enhance the overall quality of vocational education across the region (Faye, 2016). It is important to note that developments in TVET quality assurance frameworks may have evolved since the last updates, with new policies, initiatives, or regional collaborations shaping the landscape.

Best Practices in West African TVET Quality Assurance

The literature shows that quality assurance in TVET is crucial for graduates to meet the labor market's demands. In West Africa, several best practices and innovative approaches have emerged to enhance TVET quality. According to Oduaran and Bierema (2015), stakeholder engagement, competency-based training, accreditation and certification, quality assurance frameworks, and public-private partnerships are essential for ensuring the relevance and effectiveness of TVET programs. Involving various stakeholders, such as industry representatives, employers, and local communities, in the design and review of TVET programs can enhance relevance and quality (Oduaran & Bierema, 2015). Competency-based training (CBT) focuses on developing specific skills and competencies required by industries as emphasized by the International Labour Organization (ILO, 2019a). Accreditation and certification mechanisms, such as the West African Examination Council (WAEC), help ensure quality standards (Aryeetey, 2019). Quality assurance frameworks, such

as the West African Quality Assurance Network (WAQAN) encompasses program evaluation, teacher training, infrastructure assessment, and student assessment (WAQAN, n.d.). Public-private partnerships (PPPs) between TVET institutions and private sector entities can enhance the relevance of programs and provide work-integrated learning opportunities. These best practices and innovative approaches can serve as a foundation for further enhancing TVET quality in West Africa, promoting economic development and meeting the evolving demands of the labor market.

Key Challenges Impacting Effectiveness of TVET Quality Assurance in West Africa

The quality assurance of TVET in West Africa is undergoing significant improvement. The TVET landscape in West Africa faces several challenges that impact effectiveness of quality assurance (ILO, 2017). One of the key challenges is inadequate infrastructure and resources. Due to limited funding and resources, many TVET institutions in West Africa struggle with inadequate infrastructure, outdated equipment, and insufficient teaching materials, which hinder the delivery of high-quality vocational training (Amuah, 2017). The relevance of TVET curricula to the needs of industries is often questioned, leading to a mismatch between the skills acquired by graduates and demands of the labor market. This misalignment affects the overall quality and relevance of TVET programs (Ajayi et al., 2018). Similarly, the shortage of qualified instructors and trainers in TVET institutions contributes to inconsistent teaching standards and impacts the quality of learning experiences for students (Kilay, 2018). Additionally, lack of professional development opportunities for teachers hinders their ability to stay updated with industry trends and teaching methodologies (Dassah et al., 2019). Moreover, insufficient collaboration between TVET institutions and industries results in a gap between the skills taught and industry requirements. This lack of partnership diminishes relevance and effectiveness of TVET programs, as they may not adequately address the current needs of labor market (Nyarko, 2016). Furthermore, there are weak quality assurance mechanisms; and accreditation processes which undermine the credibility and standardization of TVET programs. Inadequate monitoring and evaluation systems further exacerbate the challenge of ensuring consistent quality across different TVET institutions in the region (Owings et al., 2020). We particularly notice that in West African countries like Benin, Ghana and Nigeria, there is a significant challenge due to several factors. These include lack of standardization, limited infrastructure and resources, shortage of qualified and experienced instructors, industry relevance, weak governance and regulatory frameworks, societal attitudes and perceptions towards vocational education, and a skills gap (ILO, 2017; Kilay, 2018). Inconsistent standards across different TVET institutions make it difficult to maintain consistent quality assurance practices, leading to disparities in education and training (ILO, 2019a). Similarly, inadequate funds for infrastructure development and maintenance hinder the establishment of well-equipped training facilities, while the lack of modern equipment and technology affects the practical hands-on learning experience for students (UNESCO-UNEVOC, 2019).

Addressing these challenges requires a multi-faceted approach, including increased investment in infrastructure, curriculum review and industry engagement, professional development for educators, and the establishment of robust quality assurance frameworks. To this end, coordinated efforts from governments, educational institutions, industry stakeholders, and international partners are needed to strengthen TVET quality assurance frameworks and boost quality and relevance of vocational education and training in the West African countries and beyond.

Strategies for Strengthening and Improving TVET Quality Assurance

To strengthen and improve TVET quality assurance in the West African TVET institutions, it is essential to prioritize the development of comprehensive quality assurance frameworks that encompass not only academic standards but also industry relevance, student outcomes, and continuous improvement. They are essential for ensuring delivery of effective education and training to promote competent manpower that align with industry demands. Some of the key dimensions of quality standards in TVET institutions include:

Leadership, Governance and Management

Leadership is a major pillar in any organization/institution to ensure proper direction, which bears significance. According to Blom & Meyers (2003), if the leadership is dynamic and involves team building, teamwork, and decision-making, TVET programs can be implemented effectively. Similarly, governance evaluates how the governing body or authorities understand TVET (Van den Berghe, 1996). Similarly, if the authorities have a clear vision, mission, objectives, and goals for TVET programs or institutions, authorities can design updated strategic planning that describes how it will function, earn, and provide quality training to students (Van den Berghe, 1997a). The management standard considers how resources are available and mobilized within the institutions or centers, and how management can ensure its sustainability. It appears that effective governance, leadership and management of TVET institutions are significant dimensions of quality standards. This involves assessing organizational structures, financial management, strategic planning, and transparent decision-making processes that support delivery of high-quality education.

Management of Physical Environment

Nowadays, it is critical to note here that successful leadership and TVET programs are not sufficient to measure the quality of TVET institutions. Physical facilities along with other required criteria are also important. Any institution, for example, cannot provide quality skill development programs in the absence of physical facilities or environments as well as the availability of tools, equipment and learning materials (Blom & Meyers, 2003) As a result, in order to provide quality TVET programs, a physical environment and facilities, such as good classrooms, workshops, playgrounds, labs, modern tools or equipment, and the most recent technologies are required. All of these are required in the management of the physical environment standard to make students competent and to deliver the skills accordingly. It is crucial to provide adequate

and modern facilities, equipment, and infrastructure to support practical training and learning. We assume that the availability of modern facilities, equipment, and resources necessary for effective teaching and learning is a critical dimension of the quality standards. This includes assessment of adequacy of classrooms, laboratories, workshops, and technological infrastructure. Additionally, the availability of up-to-date learning materials, textbooks, and access to relevant industry software and tools has to be considered.

Management of Human Resources

In a TVET institution, teachers, trainers and instructors are the most important stakeholders from whom students learn and acquire knowledge, skills and attitudes (Oanda et al., 2018). Students will not benefit academically if teachers are not qualified, experienced and competent, leading to limited knowledge and skills among graduates. More importantly, if teachers or instructors are well-prepared and available as well as well-motivated and well-planned with a daily well-designed lesson plan, they can provide effective and quality skill development programs (Van den Berghe, 1996). Thus, the quality of TVET programs can be assured based on the availability and sustainability of teachers or instructors as well as their regular capacity building and introduction to new technologies (Bateman & Coles, 2017). That is why, all TVET programs must be relevant; otherwise, graduates will be unable to find work. To make this possible, the training curriculum must be tailored to market demands and updated in a yearly basis to reflect new market trends (UNESCO-UNEVOC, 2018b). All in all, employing qualified and experienced instructors who possess both industry expertise and teaching skills can contribute to the quality of training and learning. It is important to emphasize qualifications, expertise and ongoing professional development of teaching staff. This includes evaluating qualifications, industry experience and pedagogical skills of instructors. Continuous training and opportunities for professional growth are essential components of quality standards to ensure that teachers are equipped to deliver high-quality education.

Management of Curriculum and Learning Resources

In TVET institutions, the management of curriculum and learning resources standards are also crucial. If books, manuals, student learning materials and visual aids are available in classrooms, workshops, labs, and playgrounds, TVET programs will be more effective (UNESCO-UNEVOC, 2013) Similarly, if TVET programs were relevant to the labor market, teachers could ensure students' quality learning (Van den Berghe, 1996). Apart from it, it is critical to understand the teaching-learning process in which the delivery of instruction and assessment contribute to evaluation of the overall teacher-student relationship and communication across the teaching, learning and evaluation processes (Oanda et al., 2018). We notice that it is important to ensure that the curriculum is up-to-date, relevant to industry needs, and delivered through effective instructional methods. Moreover, institutions should focus on relevance, currency, and industry alignment of the curriculum. It warrants that program contents ensure reflection of latest industry

practices, technological advancements and labor market demands. Additionally, instructional methods, including the use of modern teaching techniques and technology, are evaluated to ensure effective delivery of education and training.

Students' Participation in Learning Activities

As highlighted by ILO (2019b), this standard describes how students actively participate in learning activities; how teachers involve students in practical classes; and how classes are designed with an effective lesson plan and visual teaching-learning materials (visual aids) (Van den Berghe, 1997b). As a result, in order to ensure the quality of TVET programs, teachers should make classes lively with proper use of available resources, and engage students in the guided and independent practices. Additionally, teachers should organize regular evaluations as per students' performance, tasks, assignments, and regular-based assessments so that quality of TVET programs (UNESCO-UNEVOC, 2018a) could be guaranteed. This helps ensure that the programs are designed according to the needs of the labor market and whether all targeted groups have access to and participate in the programs accordingly (Van den Berghe, 1996).

Access, Equity and Inclusiveness in TVET

Assuring access, equity and inclusiveness in the TVET is essential for promoting quality standards and ensuring that individuals from diverse backgrounds have the opportunity to acquire relevant skills and knowledge. To this end, ILO (2019b) highlights some strategies for promoting inclusive education and training within the context of vocational education. Likewise, Chakroun (2019) examines global perspectives on equity and inclusion in education, including TVET, and highlights the importance of community partnerships in promoting access and inclusiveness within educational systems. By prioritizing access, equity and inclusion, TVET institutions can contribute to social and economic development by providing equal opportunities to all learners regardless of their socio-economic status, gender, disability or other factors (UNESCO, 2013). This standard confirms that TVET programs are open and accessible to different target groups, such as disadvantaged groups, and the population of remote areas. If it is true then the equity and inclusiveness of TVET are assured and maintained.

Career Guidance and Student Services

After graduation, TVET students need support in making career decisions. Career counseling and student services are essential elements of meeting TVET quality standards. They help students explore interests and guide students toward a professional career that aligns with students' strengths, weaknesses, resources and opportunities (Van den Berghe, 1997a). This standard helps students develop a career plan related to job search, goal setting and methods for achieving goals and cultivating job-searching skills (Oanda et al., 2018). Therefore, students receive guidance and support in making informed career choices because career guidance is tied to graduate employability. In a nutshell, every TVET institution has to offer comprehensive support services, such as career guidance, counseling, and placement assistance to enhance the overall learning experience. It can be said that TVET institutions should

provide support services to enhance students' learning experiences and overall well-being. This includes evaluating counseling services, career guidance, job placement assistance, and academic support for students with diverse needs.

Financial Management and Financial Sustainability

According to UNESCO-UNEVOC (2018a), the financial management and financial sustainability assist in the development of labs, the purchase of modern and the technological tools and equipment, the acquisition of good learning and teaching materials or resources, and the recruitment of qualified teachers or instructors (Van den Berghe, 1997b). Financial management and financial sustainability are most important in delivering high-quality TVET programs because they help to ensure overall quality (Van den Berghe, 1997a). We realize that to ensure financial stability in TVET institutions, TVET institutions should develop comprehensive budgets, allocate resources efficiently, diversify revenue streams, establish robust financial controls, manage costs, develop long-term financial plans, form strategic partnerships, and provide staff training. These strategies further help maintain a solid financial foundation, support their educational mission, and ensure long-term viability. By implementing these strategies, TVET institutions can maintain a strong foundation for their future.

Program Evaluation, Research, Innovation and Development

Program evaluation, research, innovation and development help in determining the effectiveness of TVET programs (Bateman & Coles, 2017). It requires overall program evaluation, research, and innovation activities. It is the most effective method for conducting internal assessments and receiving feedback from the labor market on the graduates' productivity, as well as from related stakeholders (Bateman & Coles, 2017). This standard assesses the effectiveness of programs and their contribution to the labor market as well as the enhancement of our graduates' skills, knowledge, and attitudes (Van den Berghe, 1997a). Similarly, every TVET institution has to implement fair and consistent assessment methods to evaluate student learning outcomes, leading to recognized certifications. From this, we notice that program evaluation, research, innovation and development promote a culture of continuous improvement, fostering an environment where institutions are committed to staying abreast of emerging trends, technological advancements, and industry developments. Embracing innovation and adapting to changing needs are important aspects of quality standards. More importantly, institutions have to assess the achievement of clearly defined learning outcomes and competencies of students. Assessment methods should be fair, transparent, and aligned with the learning objectives, allowing the measurement of students' knowledge, skills and abilities. The evaluation of student performance and the effectiveness of assessment tools are also crucial dimensions.

Interpersonal Relationships with different Industries and Stakeholders

Collaboration with industry and relevant stakeholders is another key dimension. In TVET institutions, collaborating with TVET

institutions and training institutes is crucial for employers to gain a competitive advantage. This collaboration involves engaging with employers, communities, and regulatory bodies to foster strong relationships with different industries and program stakeholders (Van den Berghe, 1997b). By establishing effective partnerships and collaboration, the programs can become more relevant and ensure high quality, ultimately leading to increased job prospects for graduates (Oanda et al., 2018). In short, establishing strong partnerships with industry to ensure that training programs align with current industry standards and practices. Furthermore, this key dimension helps to assess the extent to which TVET institutions engage with employers, industry associations and community organizations. This includes evaluation of the institution's ability to provide students with practical experience, internships, and exposure to real-world work environments.

Conclusion

Finally, it is important to mention that quality assurance in TVET institutions is crucial for promoting competent manpower and supporting economic growth. TVET institutions play a pivotal role in equipping individuals with the skills and competencies necessary to meet the demands of the labor market and contribute to the national development. In the West African context, ensuring quality and relevance of TVET programs has become a pressing concern. This is possible through some quality standards, which refer to a set of defined criteria, benchmarks, and expectations that guide the delivery of education and training programs. These standards are designed to guarantee that the teaching and learning processes, facilities, resources, and outcomes are in line with established best practices and meet the needs of students, industry and society at large. These standards cover different aspects, such as curriculum design, instructional methods, assessment and evaluation practices, teacher qualifications, student support services, infrastructure, and the relevance of programs to the labor market demands. They are essential to confirm quality and credibility of TVET institutions and their programs, facilitating comparability and trust among stakeholders, ultimately enhancing the outcomes and employability of graduates. By focusing on these areas, TVET institutions equip individuals with the skills and knowledge needed to succeed in the workforce while also meeting the evolving needs of industries and employers. This further safeguards that TVET institutions are able to meet the evolving needs of their students. In crux, the aforementioned key dimensions of quality standards are interrelated and collectively play a part in the overall quality and effectiveness of TVET programs and institutions. By focusing on these dimensions, TVET institutions can strive to maintain high-quality education and training programs that are relevant to industry needs, contribute to students' employability, and support economic development.

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Article

Skill Test of Workers from Informal Sectors for their Recognition and Employability: A Thematic Study

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Abstract

This thematic review explores the significance of skill tests and recognition for the informal sector workers by employing a systematic approach to unveil recurring themes: validation of skills, employability enhancement, recognition and accreditation. The validation of skills emerged as a cornerstone, boosting confidence and motivation. Skill tests and recognition play a pivotal role in enhancing job prospects for informal sectors' workers, equipping them with a competitive edge. Moreover, recognition and accreditation are crucial for establishing the credibility of informal learning achievements. Implications for informal sectors' workers include increased confidence, employability and credibility. Policymakers are urged to integrate systematic recognition processes to foster a culture that values and empowers informal sectors' workers.

Keywords: employability, informal sectors' workers, job prospect, recognition, skill test

Introduction

There are different forms of education providing skills like formal education, non-formal education and informal education. Formal education is characterized as a structured and methodical system of learning with a stringent curriculum encompassing content, methodology and objectives. In contrast, non-formal education represents a systematic learning approach with adaptable methodologies and content tailored to accommodate specific needs and interests of participants, as elucidated by Dib (1988). It is essential to note, however, that Dib's definition of informal education differs, classifying it as a non-systematic form of education devoid of defined objectives.

As per mode of learning, informal learning has increased dynamically in the ever-escaping landscape of education which signifies the learning from others socially. Informal learning embodies the essence of adult education with a distinctive emphasis on learner-centric approaches and the primacy of life experiences as the fundamental wellspring of all knowledge acquisition. The concept, as delineated by Marsick and Watkins (2001), predominantly manifests in workplace settings, yet its unfolding occurs organically, devoid of any organizational or predetermined instructional design. Unlike formal education, informal learning tends to steer clear of the conventional classroom structure; it is immediate, active, and

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intricately linked to specific job-related or task-oriented contexts.

The occurrence of informal learning is intricately tied to self-initiated activities within workplace, resulting in the acquisition of new professional skills and knowledge, ultimately contributing to the successful execution of job responsibilities or specific tasks (Boileau, 2011). These informal skills, representing a category of expertise gained through informal education, are cultivated organically through the course of daily activities associated with work, family or leisure. Crucially, informal learning lacks the organizational or structural constraints typically associated with formal education, being devoid of predefined objectives, fixed time frames, or structured learning support systems. Although the importance of informal learning is growing, lack of recognition to the informal learning is leading to the undervaluation of skills gained by such workers (Steenekamp & Singh, 2012). This challenge can be mitigated by providing formal skill tests to informal sectors' workers (Colardyn & Bjornavold, 2004). Skill test provides recognition and value to informal sectors' workers' skills that motivate them to engage in their specific occupations with joy and pride.

An assessment tool created to gauge the practical knowledge and skills obtained through self-directed or non-formal learning experiences is called a skill test for informal learners (Colardyn & Bjornavold, 2004). It usually focuses on applying skills in real-world situations, giving students the chance to show that they are proficient in particular fields. These assessments, which might consist of practical exercises, projects or situations pertinent to the subject matter, offer a concrete indicator of a learner's competency and preparedness for the use at workplace (Gumrilha & Aji, 2016). Skill test-related assessments are conducted in their workplace setting that help the informal sectors' workers engage comfortably.

For non-formal learners, skill tests are essential because they offer concrete confirmation of learned concepts and competencies (Gumrilha & Aji, 2016). The learner's confidence and employability are increased by these examinations which also increase credibility. Furthermore, passing skill exams results in formal acknowledgement, which closes the knowledge gap between industry expectations and informal learning and ultimately promotes professional development and career promotion (Sodhi & Wessels, 2016). The main objective of this study is to analyze the importance of skill tests for informal sectors' workers.

Methodology

This is a review-based paper based on the thematic analysis of different pieces of literature. The thematic analysis approach is useful for classifying and presenting themes relating to data by illustrating data with the interpretation of diverse subjects (Boyatzis, 1998). As per Alhojailan (2012), thematic analysis empowers researchers to intricately examine the connections between concepts and juxtapose them with recurring data patterns. Through the utilization of thematic analysis, researchers gain the capability to interconnect diverse concepts and perspectives expressed by workers. As thematic analysis facilitates a comprehensive exploration of the relationships between

concepts, allowing comparisons with data replicated across varied situations and timeframes throughout the project's duration, it provided me to frame this study with specific themes (Alhojailan, 2012). The thematic analysis creates a platform where amalgamation of different workers' insights can be linked and contrasted with data acquired under disparate circumstances. I also linked and differentiated among different studies in the subject matter. The method not only permits but also encourages diverse possibilities for interpretation, enabling a nuanced understanding of the intricate web of relationships and meanings inherent in the data (Marks & Yardley, 2004). This comprehensive analytical tool, by embracing various perspectives and contexts, ensures a robust and multifaceted examination of the relationships between concepts, fostering better understanding of the intricate dynamics embedded with the workers' experiences and opinions across different phases of the project.

Thematic analysis is a systematic process with four steps: data reduction, themes' reliability and validity, data display, and data drawing and conclusion (Miles & Huberman, 1994). During the data reduction process, I determine the process of selection followed by simplification and transformation of data and coding of data. Secondly, in the theme's validity and reliability phase, I provided the developed theme to different literature and took consultation from experts in the skill test field to see if the developed themes were consistent. Then, I organize data to arrange concepts and thoughts with data display. Finally, I provided my conclusion with data interpretation.

To perform the thematic review, I first searched the pieces of literature in consultation with my faculties and some seniors in TVET field. As per their suggestions, I used Google Scholar and searched keywords like "informal learning", "informal sectors' workers", "skill test" "recognition", "importance of skill test" and "advantage of skill test." As per their suggestions, my focus was on the importance of skill test, thus, I reviewed the literature within the area, mostly the recent literature. A total of 20 national and international journal articles and books were reviewed , focusing on the importance and recognition of skill tests for informal sectors' workers.

Importance of Skill Test

After doing the thematic review, the importance of skill tests on informal sectors' workers is categorized as validation of skills: boosting confidence and motivation, employability: enhancing job prospects, and recognition and accreditation of the skill.

Validation of Skills: Boosting Confidence and Motivation

Individuals engaged in informal learning derive their knowledge from real-life experiences. The validation of such informal learning becomes crucial for these workers. Moyer (2016) asserted the significance of informal learning, emphasizing its importance for workers. However, the validation of acquired skills is deemed essential. Without practical and effective measurement mechanism, these skills risk losing their meaning and significance. Moyer's argument underscores the necessity of validating informal learning outcomes, ensuring that the skills gained through these experiences are acknowledged and recognized. The absence of a viable measurement approach not only diminishes

the value of these skills but also raises questions about their legitimacy. Therefore, Moyer advocates for the establishment of a robust validation framework, emphasizing that without it, the skills acquired through informal learning might be perceived as inconsequential or lack the credibility required for broader acknowledgement and acceptance. In essence, the recognition of skills acquired informally is integral to acknowledging the authentic and valuable learning experiences that occur beyond the formal confines of traditional educational settings.

The validation of skills catalyzes motivating informal sectors' workers. Witthaus et al. (2016) conducted a comprehensive study in Europe, stressing the assessment and recognition practices of non-formal Massive Open Online Courses (MOOCs). Their findings indicate that the validation of skills acquired through non-formal MOOCs acts as a significant motivator, inspiring workers to enhance their performance. In the context of informal learning, validation takes on a crucial role, providing a tangible acknowledgment of the skills and knowledge gained through non-traditional pathways. The study by Witthaus et al. (2016) emphasizes that when workers receive formal recognition to their achievements in non-formal MOOCs, it has a positive impact on their motivation levels. The act of validation becomes a source of encouragement, validating the workers' efforts and instilling a sense of accomplishment. By delving into the assessment and recognition practices of non-formal MOOCs, Witthaus et al. (2016) shed light on the pivotal connection between validation and learner motivation. The study underscores that when workers perceive their achievements as formally recognized and validated, they are more likely to be motivated to excel further in their learning endeavors. This aligns with the broader understanding that acknowledgment and validation play integral roles in shaping workers' attitudes and commitment to the learning process. The implication is clear: in the realm of informal learning, where individuals often engage in self-directed and non-traditional educational pathways, the validation of skills emerges not only as a means of recognizing accomplishments but also as a powerful tool to foster continuous motivation. Therefore, the incorporation of validation practices becomes essential for unlocking full potential of informal sectors' workers, propelling them toward higher levels of engagement, achievement, and sustained enthusiasm for lifelong learning.

The above discussion shows the importance of skill tests and validation in boosting the confidence of the informal learner. A similar result has been suggested by Singh (2009). The recognition of informal learning boosts self-confidence.

Employability: Enhancing Job Prospects

The assessment of skills and subsequent recognition plays a pivotal role in augmenting job opportunities for individuals engaged in informal learning. This process significantly elevates employability among informal sector workers, rendering them more competitive and attractive to prospective employers. Leney and Ponton (2007), in their thematic review, emphasized the critical importance of recognizing non-formal learning experiences in the context of employability, particularly in the United Kingdom (UK). In the realm

of informal learning, where individuals often acquire skills through diverse and non-traditional avenues, the linkage between skill recognition and improved job prospects is paramount. The acknowledgement of skills gained informally translates into tangible benefits for informal sectors' workers, making them stand out in a competitive job market. Leney and Ponton's thematic review underscores that formal recognition of non-formal learning experiences contributes significantly to enhancing employability outcomes, shedding light on the relevance of these findings within the specific context of the UK. The thematic review's focus on the UK context aligns with the broader global discourse on the transformative impact of recognizing non-formal learning. The review highlights that in the UK, as in other regions, there exists a direct correlation between the acknowledgment of skills acquired informally and increased employability. This implies that formal recognition serves as a bridge, connecting the diverse skill set of informal sectors' workers with the expectations and requirements of employers.

In essence, Leney and Ponton's thematic review reinforces the idea that the recognition of non-formal learning experiences is not merely a symbolic gesture; it directly influences the employment landscape for informal sectors' workers. By accentuating the connection between skill test recognition and job prospects, the review advocates for a paradigm shift in how society perceives and values the skills acquired outside traditional educational frameworks, positioning informal sectors' workers as valuable contributors to the workforce.

Likewise, Bajracharya (2022) asserted that in the context of Nepal, a substantial majority, exceeding eighty percent of workers, acquire their skills through practical work experiences. The prominence of the informal sector is particularly noteworthy within the nation's economic landscape. Bajracharya (2022) contends that the skills obtained through hands-on work and experiential learning hold significant potential for economic transformation and social progress in Nepal.

The key proposition put forth is that if these skills, cultivated through real-world experiences, undergo a formal accreditation process facilitated by a testing authority, it can effectively address challenges related to underemployment and inadequate remuneration. The ultimate goal is to pave the way for secure and decent employment opportunities, ensuring a sustainable and satisfactory income to the individuals in Nepal. It is characterized by a predominantly informal sector and witnesses a substantial portion of its population acquiring skills organically through practical engagement in various fields. Bajracharya (2022) highlights the inherent value embedded in these skills, emphasizing that they represent a formidable resource for the nation's workforce. However, the challenge lies in the informal nature of skill acquisition, which often leads to a lack of formal acknowledgement and accreditation. The author proposes a transformative solution by advocating for a systematic testing authority that can validate and accredit the skills obtained through practical experiences. The potential impact of such an accreditation process is underscored by its capacity to address two critical issues prevalent in the Nepalese context: underemployment and underpayment. Bajracharya (2022) contends that formal recognition of skills

acquired through experiential learning can significantly mitigate underemployment, aligning individuals with job opportunities that resonate with their acquired competencies. Furthermore, by establishing a tangible link between skills and formal accreditation, the issue of underpayment can be systematically addressed. Accredited skills create a foundation for bargaining power, ensuring that individuals are justly remunerated for the expertise they bring and implement at the workforce.

Similarly, Brewer (2013) contends that informal learning plays a pivotal role in augmenting youth employability. The assertion emphasizes that the formal recognition of informal learning through skill tests is imperative for enhancing employability. In essence, Brewer underscores the significance of acknowledging and validating skills acquired through informal learning pathways as a critical factor in improving the employment prospects of the youth. In the case of Nepal as well, Bajracharya (2022) contends that the skills obtained through hands-on work and experiential learning hold significant potential for economic transformation and social progress.

Recognition and Accreditation of Skill

Another critical aspect of recognizing and accrediting informal learning lies in establishing the credibility of individuals engaged in such learning pathways. Werquin's study in 2012 further advocates for the recognition of informal learning, asserting that this acknowledgement is integral to enhancing the credibility of workers immersed in informal educational pursuits. Similarly, Singh (2008) highlights that acknowledgement, validation, and accreditation of technical and vocational skills significantly contribute to the informal sector workers. Recognition not only validates their acquired skills but also strengthens the image of informal sector workers in various stakeholders, including employers, institutions, and the professional community.

According to Werquin (2012), the full capabilities of informal sectors' workers remain underutilized in the absence of formal recognition, as they lack a tangible means to demonstrate and prove their acquired skills. The significance of recognizing and accrediting informal learning transcends mere acknowledgement; it directly impacts the perceived credibility of individuals within educational and professional spheres. Stating a different version, Allias (2010) suggests that informal sector workers believe in real world of work rather than the test, its recognition and accreditation. It shows that workers are not concerned about skill test and happy with their skills. Werquin's research underscores the idea that without formal recognition, informal sectors' workers face limitations in fully leveraging their acquired capabilities. The inability to provide tangible evidence of their skills hampers their credibility, potentially impeding their opportunities for growth and advancement. Werquin's argument aligns with the broader narrative that informal sectors' workers often possess diverse and valuable skills gained outside traditional educational frameworks. However, the lack of recognition poses a substantial challenge in translating these skills into tangible assets. In professional settings, where credentials and credibility play pivotal roles, the absence of formal acknowledgment may undermine

the confidence that employers, educational institutions, and other stakeholders place in the abilities of informal sectors' workers.

Furthermore, the study implies that the credibility derived from the recognition of informal learning extends beyond individual benefits to societal and economic dimensions. When informal sectors' workers receive acknowledgment for their skills, they contribute not only to their personal growth but also to the overall enrichment of the workforce. Recognized informal learning becomes a valuable resource that can be harnessed for collective progress and innovation. In essence, Werquin's study advocates for a paradigm shift in recognizing the inherent value of informal learning and its impact on the credibility of individuals. The call for formal recognition is not merely a procedural formality but a transformative step that empowers informal sectors' workers to fully participate and contribute to educational and professional domains. The act of accrediting informal learning, according to Werquin (2012), is a cornerstone in fostering a culture that values and acknowledges diverse learning pathways, ultimately enhancing the credibility and potential of individuals engaged in informal educational pursuits.

In a parallel vein, Singh (2008) contends that the acknowledgement, validation and accreditation of skills contribute significantly to enhancing the credibility of informal sectors' workers. According to Singh, the recognition of skills acquired through informal learning pathways serves as a pivotal factor in elevating the authenticity and reliability of these workers. This recognition not only validates their acquired skills but also bolsters the credibility of informal sectors' workers in the eyes of various stakeholders, including employers, educational institutions, and the broader professional community. Consequently, Singh emphasizes the pivotal role of skill tests and formal recognition processes in augmenting the overall credibility associated with the skills of individuals engaged in informal learning. Singh's argument delves into the multifaceted impact of recognition, validation and accreditation on the credibility landscape of informal sectors' workers. The process of acknowledging skills obtained through informal learning is depicted as a transformative mechanism that goes beyond validation; it directly influences the perceived authenticity and reliability of these skills. Singh posits that when informal sectors' workers undergo formal recognition processes; their skills are acknowledged and authenticated, instilling a sense of trustworthiness in the capabilities they bring to the table.

Furthermore, the study suggests that the increased credibility resulting from recognition has far-reaching implications. In professional and educational contexts, where trust in the competence of individuals is paramount, the formal acknowledgment of skills becomes a cornerstone. Employers, educational institutions, and other stakeholders are more likely to place confidence in the abilities of informal sectors' workers when their skills bear the mark of official recognition. This enhances individual opportunities for career advancement and contributes to reshaping societal perceptions of the value inherent in informal learning. Singh's emphasis on skill tests as a concomitant element to recognition aligns with the broader

narrative that formal acknowledgement is a comprehensive process, involving both the validation of skills and establishment of credibility. The correlation between recognition and credibility, as posited by Singh, underscores the need for a systematic and standardized approach to acknowledging the diverse skills cultivated through informal learning. The study implies that without a structured recognition mechanism, the credibility associated with informal sectors' workers' skills may remain undervalued or overlooked, potentially hindering their full integration into professional and educational spheres. In the case of Nepal, skill tests provide recognition and accreditation to informal sectors' workers (Regmi, 2009). In Nepal, informal sectors' workers are certified with certain levels as per criteria by the National Skill Testing Board (NSTB) under the Council for Technical Education and Vocational Training (CTEVT), the apex body in Technical and Vocational Education and Training (TVET). Then their skills are valid for national and international labor markets that provide them justice and recognition.

Conclusion and Implications

In summary, the thematic review exploring the significance of skill tests and recognition to informal sectors' workers has provided valuable insights into the multifaceted aspects crucial for education and workforce development. The methodology employed encompassed a thorough examination of literature, aiming to identify recurring themes, particularly focusing on the validation of skills, enhancement of employability, and recognition and accreditation. The theme of skill validation emerged as a fundamental element in bolstering confidence and motivation among informal sectors' workers. The review emphasized that formally acknowledging skills acquired through unconventional paths acts as a catalyst, instilling a sense of accomplishment and self-worth. This recognition extends beyond symbolic gestures, empowering informal sectors' workers to engage in continuous learning with confidence. Additionally, the thematic review explored the theme of employability, underscoring the pivotal role of skill tests and recognition in boosting job prospects for informal sectors' workers. The synthesis of findings highlighted that formal validation equips informal sectors' workers with tangible credentials, setting them apart in a competitive job market. Employers increasingly value practical skills gained through informal learning, making recognition a crucial factor in unlocking diverse opportunities. The third theme, recognition and accreditation, emerged as vital for establishing the credibility of informal learning achievements. The review illuminated the transformative impact of formal recognition on the perceived authenticity and reliability of skills acquired through informal pathways. Without recognition, the full potential of informal sectors' workers remains untapped, hindering their ability to showcase capabilities in professional and educational settings.

The synthesis of these themes underscores the interconnectedness of validation, employability enhancement, and recognition in shaping the landscape for informal sectors' workers. The thematic review demonstrated that integrating skill tests and recognition processes is not merely procedural but a strategic imperative for empowering informal sectors' workers. The

formal acknowledgement of skills acquired informally serves as a transformative force that not only boosts confidence, enhances employability, and establishes credibility but also contributes to reshaping the narrative around the significance of informal learning in the dynamic landscape of education and employment.

The thematic review provides a comprehensive overview of the importance of skill tests and recognition to the informal sectors' workers, advocating for a paradigm shift in acknowledging the value of non-traditional learning pathways. The formal recognition of skills acquired informally emerges as a transformative force that contributes to societal progress and economic development, reshaping the narrative around the significance of informal learning in the evolving landscape of education and employment. As we navigate the terrain of 21st-century skills and learning paradigms, the integration of systematic skill tests and recognition processes becomes imperative to foster a culture that values and empowers informal sectors' workers on their educational and professional journeys.

The findings of this study are beneficial for informal learners, workers and policymakers as well. Informal learners and workers can understand the importance of skill tests and recognition. Informal learners and workers can grasp the significance of skill tests and recognition by integrating a focus on validating skills, enhancing employability, and providing acknowledgement and accreditation. This approach ensures that individuals recognize the practical value of their skills, making them more competitive and acknowledged in the professional landscape. Likewise, policymakers can understand the importance of skill tests and recognition which makes the skill test mandatory for informal and non-formal technical and vocational skills and learning.

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Article

Experiences of Private Sector Employees on Transfer of Soft Skills Trainings

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Abstract

The issue of low training transfer remains prevalent despite private organizations' efforts in conducting soft skills training programs for its employees. Varying experiences of training transfer process are also reported. In this context, the purpose of this study aimed to explore the experiences of participants of private organizations of Nepal during soft skills training (reaction level), and their experiences while applying the knowledge and skills back to their workplace. The research design was qualitative and a total of 34 employees from four private companies of Nepal participated in this study who had attended a soft-skills training. Data was collected using five focus group discussions (FGDs) and thematic analysis used in which three overarching themes were generated with 25 categories and 210 codes. The study found that the participants had perceived soft skill training as the means for refreshments and socialization. In the post-training phase, they experienced changes in their mindset and improvement in interpersonal relationship with others in their workplace. Besides, irrespective of whether they participated in indoor or outdoor based programs, the duration and content of the program and their perspective towards whether they took it as an actual training or just a means of refreshment also affected their training transfer intentions. They experienced that for training transfer to occur, their own willingness to transfer guided by training content's job relevance, micro-sessions based training designs, and importantly the post training interventions and support from employers or HR/line managers were necessary. Practical and research implications have been discussed in the paper.

Keywords: training transfer, soft skills training, private organizations, post-training interventions

Introduction

"Did my employee (s) learn during the training program?" or "Will my employee(s) be able to implement those learning from training back to the workplace?" Human resource managers or supervisors are often found to be pondering over such questions. Organizations analyze the need to remain ahead in the stiff competition of the market and one of the major means to lead the market share is through competent and committed

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workforce and enhanced organizational knowledge (Aragón et al., 2012). Hence, they regularly spend substantial amount of their budget on training and development to capacitate their employees. The purpose of sending employees to training is to help employees get knowledge and acquire skills necessary to ensure their performance level on the job to be satisfactory (Armstrong, 2012), and consequently to achieve the organizational objectives (Bhatti, et al., 2013). In this respect, they are expected to implement the learning after they return to their workplace.

While the significance of training is widely acknowledged, it is equally imperative to underscore the significance of transfer of learning from training in enhancing workplace effectiveness (Chiaburu et al., 2010). For training transfer to occur, learning must be generalized in the job context and retained over a period of time (Baldwin & Ford, 1998). Hence, training transfer can be regarded as the process of implementing learning from training back to workplace and retaining learning as well. However, having singular perspective of considering training transfer as same when it comes to all training is misguided since training transfer is influenced by several factors, including the design and content of the training themselves. Further, there are inherent differences between hard and soft skills (Laker & Powell, 2011).

Hard skills are tangible, measurable and quantifiable, while soft skills are intangible and cannot be measured and quantified (Rao, 2018). While hard skills trainings are fundamentally essential for an organization's functional roles. The needs for soft skills are also evident in the past literature (Blume et al., 2010; Ford et al., 2017; Johnson et al., 2012) for their roles in organizational effectiveness. The transfer of soft skills is linked to far transfer and that of hard skills is linked to near transfer; however, there is less likelihood of training transfer from soft skills training to job than hard skills training as per earlier research and this inability to transfer any form of training is an extremely costly (Laker & Powell, 2011).

In Nepal, organizations from different industries, such as corporate houses, IT companies, multinational companies, financial institutions frequently conduct soft skills training programs like team building, communication skills and leadership training, among others. However, there have been limited studies on experiences of training transfer on specific soft skills based trainings in private firms in Nepal. For instance, Subedi's (2008) cross-sectional study on two industries- civil and corporate- to dig out factors influence training transfer in Nepali context. Other studies were found on training transfer on specific factors influencing training transfer, such as organizational culture (Gautam & Basnet, 2020), trainee characteristics and supervisory support (Singh, 2017), or cultural factors and beliefs (Subedi, 2006). Concerning the frequency and intensity of such soft skills based programs in private industries, exploring the experiences of the employees attending soft skills trainings is key concern of this study.

Factors Influencing Training Transfer

Highly acclaimed research done by Baldwin & Ford (1988) explained a model which included training inputs, consisting of three

factors: trainee characteristics, training design, and work environment influences that are responsible for training outcomes (which are defined as acquisition of knowledge and skills in the training and retention of that learning back in the job). Trainees' characteristics have been explained in terms of ability, personality and motivation. It also includes trainees' conscientiousness, anxiety, cognitive ability and self-efficacy (Colquitt et al., 2000). Similarly, training design has been explained in terms of principles of learning, sequencing and training content. Training design includes the aspects of training providers, as it constitutes needs assessment, design, delivery, roles of trainers and training facilities. Among the two, trainee characteristics fall under individual level, and training design falls under learning field level (Tonhäuser, & Büker, 2016).

The third factor is about work environment; this can be further explained in the context that even if participant is competent and motivated, and training program is designed and delivered well, training transfer may not happen if there is no supervisory, peer support and opportunity to use the learning. Also, learned behavior should be generalized on the job context and continued over a period of time (Baldwin and Ford, 1988). Tonhäuser and Büker (2016) present work environment as organizational level factor. These factors have been further confirmed later (Cheng & Hampson, 2008; Ford et al., 2018; Renta-Davids et al., 2014) and substantiated for instrumentation (Bates et al., 2012).

Training Transfer in Soft Skills Training

Soft skills are non-domain skills (Rao, 2018) which are explained as important job-related skills that involve little or no interaction with machines and can be applied in a variety of job contexts (Levant et al., 2016). Soft skills can be interpersonal, which is about managing interactions with others and intrapersonal, which is ability to manage oneself (Laker & Powell, 2011). Such skills are also called people skills and there are 11 soft skills that companies value the most: communication, leadership, teamwork, creativity, time management, adaptability, problem-solving, work ethic, critical thinking, conflict management and emotional intelligence (Danao, 2023). Seventy five percent of long-term job success credit has been given to people skills in the research conducted with Fortune 500 CEOs by the Stanford Research Institute International and the Carnegie Melon Foundation (Rao, 2018). Further, studies (Example: Shah et al., 2023; Tripathy 2020) have exhibited stronger associations of soft skills with success careers and better performance and greater job satisfaction. Soft skills play crucial role in enhancing communication, collaboration, relationship building, development of emotional intelligence, adaptation to change, and problem solving at workplace (Srivastava, 2023).

Soft skills trainings are conducted indoor as well as outdoor. Both are widely popular in the current context. Though indoor or classroom based trainings have been common for majority of the training programs globally using all the applicable methods for learning (Mann et al., 2022), outdoor training programs have gradually received higher interests among the training providers and trainees in the industrialized countries (Barfod & Bentsen, 2018). Outdoor experiential training (OET) programs are

such types of programs which are based on experiential learning process and conducted at least partially outdoors, involving participants in physical and mental exercises (Williams et al., 2003). OET programs are not just limited to team building and leadership programs but they also include programs on problem-solving skills, increasing trust, and improving communications. Such programs offer challenging experiences and elements for deeper learning (Bentsen et al., 2009). However, irrespective of literature supporting OET in learning, there are anecdotal evidences and there is less likelihood of training transfer from soft skills training to job than the hard skills training (Kupritz, 2002). In this connection, one of the key factors found out was that in soft skills training, participants are less likely to value a trainer's expertise and they have feeling that they already have required expertise and know what needs to be done (Laker & Powell, 2011). Further, published studies (Example: Botke et al., 2018) have shown that training transfer related to soft skills is influenced by three factors, namely: job-related factors, social support factors, and factors related to the organizational facilitation of learning.

Regarding the extent literature signifying the issues on the soft skills based training transfer, some studies (Example: Charoensap-Kell et al., 2015) suggest the importance of effective evaluation to assess training transfer or training effectiveness in line with the intended goals. Among four levels of training evaluation, reaction level holds importance to draw an overall brief impression of the training, while the behavior level (performance back on the job) measures actual transfer of the training (Kirkpatrick & Kirkpatrick, 2006) and has drawn more research attention due to its practical importance to multiple stakeholders (Burke & Hutchins, 2007, Ford et al., 2018). To delve into the subjective and personalized experiences of the trainees during the training transfer process, exploring the first hand experiences of the participants becomes necessary. In this backdrop, this study aims to explore the experiences of the private firms' employees during the soft skills trainings and while transferring the training back to the job.

Research Method

Design

A descriptive qualitative method was used in this study. In this qualitative study adopting inductive approach, thematic analysis was carried out on the transcripts of focus group discussions (FGDs) (Creswell & Poth, 2016). FGD was selected for data collection since it allows data collection in short span of time with limited resource by a small number of researchers and provide in-depth insights on why and how participants feel about the specific issues (Bertrand et al., 1992;Tracy, 2013).

Participants and Groups

In this study, only those soft skills training programs were considered for the study which were carried out with past six months during the time of data collection. The selected soft skills training programs included both indoor and outdoor based designs. Regarding the participants, total number of participants was 34, in which, 23 were male and 11 female with the age ranging from 20s to 50s. Greenbaum (1998) explains that among the

types of focused groups, full group consists of 8 to 10 persons, whereas mini group consists of 4 to 6 persons. Hence in this study, both full group and mini groups were used extending from four to nine participants in each group. Purposive sampling was done ensuring participation from diverse departments. In some FGD sessions, the groups were homogeneous in terms of level (all were at manager level), whereas in others, the groups were heterogeneous, comprising employees from assistant to senior manager. Earlier, researches both mentioned use of homogeneous as well as heterogeneous groups in focus group discussion (Carey, 1994; Fern, 1982; McLafferty, 2004).

Data Collection

In this study, data was collected through five FGDs in four organizations of Kathmandu in which two FGDs were conducted in private conglomerate approach, whereas in rest of three organizations, one FGD was conducted each based-on availability of candidates physically at the same location. Different companies, such as Information Communication Technology (ICT), private conglomerate, commercial bank and development bank were chosen based on the accessibility of data. Total four companies were included in this study. All these companies were operating across the country while their head offices were based in Kathmandu. The employees who took part in this study were based on Kathmandu offices.

Five FGDs were conducted between March to May 2023 (See Table 1). The trainings, which the study considered for this study, were conducted in between August 2022 and April 2023 in Kathmandu. There were three groups which included participants from Outdoor Experiential Training (OET) which was team building programs. Meanwhile, there were two groups which included participants from indoor based soft skills program, such as leadership and communication, motivation and customer service. Total 34 participants were interviewed through FGDs during this period. Discussions were not digitally recorded rather manual note taking was done.

For FGD, office venues of the respective organizations were used in case of three organizations while a nearby café for one organization. All the selected venues were quiet, ensuring uninterrupted discussions. Each FGD lasted about an hour in average where key guiding questions were used. In order to collect in-depth data, probing techniques were intensively used during the discussion. The FGDs were facilitated by the researchers who were also in the roles of moderator and note taker. FGD commenced with sharing of guidelines by the researchers. The discussion started with their experiences during the program, which then continued with their experiences on training transfer. Although one or two participants tried to dominate the discussion in some FGD sessions, the researchers respectfully controlled the environment and allowed all the participants to share their views freely. This helped in gaining the confidence of the remaining participants and led to rich interactions among the participants.

Prior to the commencement of FGDs, concerned HR departments were asked for permission to audio recording. However, since confidentiality was necessary as per organizational policies of the studied

organizations, recording was not possible in three organizations. In one organization, although recording was allowed, the researcher discontinued the recording in the mid of the discussion since they were found to be a bit reluctant in providing the answers freely. Moreover, the researcher instantly noted participants becoming comfortable afterwards. Hence, the researchers manually noted down all the responses of the participants. The researchers also took a note of their non-verbal language during the course of FGDs which were expressed in terms of excitement or sadness and even frustration. All the responses were transcribed in Word document immediately after the discussions.

Table 1

Focus Group Discussion Characteristics

Company (C)	Date of Interview	Brief on organization	Group (G)	Duration	No. of participants	Department of participants	Training program referred	Date of training program	In-house/external trainer	FGD venue and setup
C1	26 March, 2023	Conglomerate of Companies (private companies into automobile trading, construction, educational, services, etc.)	G1	1 hour (11:20am to 12:20pm)	7	Admin, Spare Parts, HR, Sales, Business Development, IT	Outdoor based (team building)	Dec, 2022	External	Meeting hall; peaceful
			G2	1 hour (12:30pm to 1:30pm)	9	Finance, Spare Parts, Sales, CFD	Outdoor based (team building)	Dec, 2022	External	Meeting hall; peaceful
C2	07May, 2023	Business Process Outsourcing company in mortgage industry	G3	1 hour 5 minutes (12:10-1:15pm)	5	Mortgage, Capability Building, Data processing, Customer relations	Indoor based (leadership module)	August, 2022 to May, 2023	In-house	Computer lab
C3	19May, 2023	Financial institution	G4	1 hour (2:30-3:30pm)	4	Retail credit, IT, Remittance, Strategic Planning and Account	Outdoor based (team building)	May, 2023	External	Space in café
C4	19May, 2023	Financial institution	G5	1 hour 10 minutes (3:45-4:55pm)	9	Branch staffs in various departments such as Marketing, Customer Service, etc.	Indoor based (communication, motivation, customer service)	August, 2022	External	Office workstation
4		Total	5	5 hours and 15 minutes	34					

Data Analysis

The approach used for transcribing discussion on paper was 'work with reporter's notes only' among the three approaches suggested by Bertrand et al. (1992) which explains the process of expanding and clarifying notes based on memory immediately after group session. There were total five Word documents which included transcription of each focus group discussion. The entire five documents consisted of 293 paragraphs. Before coding, the documents were read several times. Then, each document was coded using qualitative analysis software - MAXQDA version 2020. While coding, inductive approach in thematic data analysis process was used. This was done by first studying each statement, phrases and texts of each transcribed Word file, which was imported to MAXQDA and suitable codes generated for them. After completing this process, all the generated codes were reviewed and common codes clubbed. Then, report on 'Coded Segments' and 'Overview of Codes' were extracted in MS Excel which was initially categorized into parent code, code and segments. During manual analysis, the generated 210 codes were clubbed to 25 categories and these categories were clubbed up to three overarching themes (See table 2).

Quality and Ethical Concerns

Trustworthiness has been a major focus in any qualitative research while addressing the quality concerns (Johnson & Parry, 2022). The trustworthiness of focus group data implies four criteria: credibility, dependability, transferability and confirmability (Denzin &Lincoln, 2018) in which various techniques have been suggested in the literature to ensure each criterion (Korstjens, & Moser, 2018; Morrison-Beedy et al., 2001; Patton, 2014). Credibility was focused through persistent observations. Using detailed FGD guide, relevant issues were identified and focused on. Besides, accuracy was given priority during the course of purposive sampling which was working in the organizations considered. Importantly, there was prolonged engagement in the field. Researchers met the participants prior to FGD for rapport building and establishing relationship of trust. Researchers also spent some time after FGDs to better collect the qualitative experiences. To ensure dependability, the stability of data collected between March 2023 and May 2023 was met by using same interview guide for each group and by preparing transcripts promptly. Moreover, transferability was assured by well describing participant as well as their selection procedures, using verbatim when presenting findings and thick description so that their experiences become meaningful to other readers. To ensure confirmability, findings collected by the researchers are confirmed by other researchers. Neutrality was maintained while drawing findings being based on the data rather than personal preferences.

In this study, participants were well informed regarding the purpose of the study and they were assured of the confidentiality of their identity, their data, as well as name of their companies. Consent was taken prior to data collection in each round of FGD and participants were treated with respect. Place of FGD was selected as per the participants' convenience and comfort. They were informed that their participation was voluntary and they could decline or withdraw from the study at any time without being penalized.

Table 2

Overarching Themes, Categories and Codes

Themes	Categories	Sub-categories/Codes	Code Frequency
Experiences during soft skills training (reaction level of training evaluation)	Soft skills training as refreshing and 'a moment to bond'	Soft skills training as refreshing event	13
		Soft skills training as opportunity to bond	7
	Soft skills training as an 'opportunity to learn'	Soft skills training as learning experience	19
		Soft skill training as opportunity for understanding self and others	18
	Soft skills' training design being reason for incomplete learning	Ineffective training design impacting learning during soft skill training	17
		Surfiacial learning during soft skills training	3
Experiences on training transfer of soft skills training	Soft skills training being successful in bringing behavioral changes in individual	Change in mindset/perspective after soft skills training	12
		Soft skills training helpful in interpersonal relationship building after training	17
	Soft skills training in benefitting individual and organization in the long term	Soft skills training's learning remains as repository after training	18
		Soft skills' impact business output in long run	3
	Soft skills training in being unsuccessful in application in spite of good learning	No training transfer because learn fades away	3
		Difficulty in training transfer experience because of others	1
	Soft skills training's inherent nature being reason for no application or time taking application	Long time for implementation for training transfer of soft skills training	5
		Participants' giving no credit to training because of self-pride	6
	Soft skills training's application based on job relevancy only	Easy training transfer experience for only those job-related skills	4
	Soft skills training having zero application experience	No training transfer experience because of no actual learning during program	3

Themes	Categories	Sub-categories/Codes	Code Frequency
	Individual's willingness and initiative as important reasons behind training transfer	Individual willingness reason behind application	17
		Individual's uniqueness reason behind application	3
	Post training interventions behind successful training transfer	Immediate tools driven by HR behind successful training transfer	14
		Organization culture of support, guidance and coaching encouraging learning implementation	7
	Experience in training transfer in indoor based soft skill training and outdoor experiential training (soft skills based)	Major differences in training transfer in indoor vs. outdoor soft skills trainings	8
Perception on reasons behind varying levels of training transfer of soft skills training	Job relevance training as an important reason behind training transfer	Avoidance to implement learning for job irrelevant skills	3
		Implementation of learning for job relevant skills	1
	Nature of soft skills program as the reason behind less or no application after the training program	Behavior change taking long time for implementation	5
		Soft skills training's learning being momentary as reason behind no implementation	3
		Total	210

Findings

The study had documented experiences of the employees during the training and training transfer phase. The findings have been grouped into three broad themes which are further managed into 13 categories. Participants' quotes from transcripts had also been presented below each theme and categories. Quotes were identified by number assigned to each focus group (FG) and participant (P).

Experiences of Learning during Soft Skills Training

The study had captured experiences of trainees on their perception of learning during soft skills training they had attended. Their experiences during the program had been further grouped into 3 categories and 6 sub-categories. Although the initial question tried to capture 'level 1- reaction' and 'level 2-learning' (Armstrong, 2012), there were some participants who shared only level 1-reaction part on their perception towards training and did not focus on learning aspect. However, there were many participants who specifically shared their learning from the program as well. Hence, the following categories include perception about training as well as learning during the program.

Soft Skills Training: Refreshing, 'a Moment to Bond'

Participants shared their perception towards soft skills program as the refreshing event. This can be further expressed as "motivating", "fun activities", "energizing", "enjoyment", "refreshing", etc. In one of the focus group discussions, it was articulated that even people with negative mindset were doing the activities. One of the participants shared observation on such program as-

> Compared to the training program where more theory and lecture are given, these programs not boring at all, for there were energizing activities (FG5_P3).

Most of the participants felt that the program was a good opportunity for foster bond among employees. Since employees at different locations hardly get opportunity to meet and talk in person, attending such program was an opportunity to meet with various persons working in the same organization. They felt connected with different levels of employees which are expressed as follows:

> No feeling of hierarchy- senior and junior (FG2_P3).

> After the program, I felt it would foster further relations (FG2_P8).

Soft Skills Training also an 'Opportunity to Learn'

In all focus group discussions, most of the participants mentioned learning experiences. Apart from their perception of the training being "energizing" and "connected" as per above categories, these forms of training also had imparted required contents. A participant in customer service training shared her learning about customer handling skills as follows:

> Able to understand type of customers and learnt how to handle customers accordingly. Earlier, focus was on asking customers to do account opening. Now, I have tried to do need assessment of customers first then only decide to give products/services (FG5_P3).

Another very important learning experience had been on the self-awareness and understanding others. Self-awareness was not only limited to learning but was also realizing one's own capacity, which was powerful realization indeed. This was expressed by few participants as mentioned below:

> The awareness to me was these are possible ways that I can do. Self-awareness is important, especially in soft skills training (FG5_P5).

> During such program, one can observe behavior of other people (FG3_P2).

Soft Skills Training Design Reason behind Incomplete Learning

Although above categories were focusing on positive learning experiences of participants during the program, there were experiences shared by participants regarding ineffective training and surficial learning. To mention, ineffective learning was because of choice of activities which were not relatable to work; choice of games were too simple; no debriefing was done after activity, etc. One participant had shared his/her experience this way:

> Some topics which I have not experienced were difficult to relate (FG3_P3).

Also, one participant had expressed concern that there was no in-depth study under each topic:

> There are lots of things which are yet to learn, more than what were taught in activity in the program. Things learnt are yet to be implemented as well (FG2_P9).

Experiences on Transfer of Soft Skills Training

Apart from learning during the soft skills training program, it is also imperative to know whether there had been any training transfer or not on their job. Responses of participants had been discussed in detail and studied in seven categories. Out of seven categories, two of them had recorded positive experiences on successful training transfer and four categories focused on challenging and difficult experiences on training transfer. Meanwhile, the last category was focused on the experience in training transfer in indoor and outdoor based experiential training (soft skills based). Considering the responses, many of them had shared positive experiences on training transfer compared to challenging ones.

Soft Skills Training Successful in Bringing Behavioral Changes in Individual

After returning from training, participants shared that their perspectives, behavior and mindset changed for better reason. They were able to handle emotions and situations as demanded; mindset became positive towards organization as they expressed:

> I could control my emotions after returning from training (FG2_P7).

> I got ideas how to handle as situation demands (FG3_P1).

Also, many had experienced that their relations with peers and team had improved after attending soft skills training.

> Since I built camaraderie during the program, it became easy to open up (FG4_P4).

> The way I do conversation with my peers changed after session (FG3_P2).

Soft Skills Training in Benefitting Individual and Organization on Long Term

Many participants shared that learning from soft skills training were applied by them and some even shared that even if learning implementation is not immediate, it will remain as repository, i.e., they can refer to it as and when it will be required.

> We learnt 'source outcome'- rather than solution, it will be beneficial to understand source. Such things are now in our memory (FG3_P4).

It was really good to know from some participants that soft skills training program could have such big impact. Although the organization had not measured result or ROI after the program, the participants had beautifully explained correlation between individual's mindset and its impact in business output.

> If such programs happen, there won't be any fraud. People will think if I do anything wrong, it will spoil my family, i.e., my organization. Such mindset encourages individual to avoid involving in fraud. (FG4_P4).

> Helped to decrease turnaround time in decision making as I know the person (FG4_P1).

Soft Skills Training: Unsuccessful in Application despite Good Learning

In case of soft skills training, some activities are motivating, but learning remains for that time only. This is expressed by one participant as follows:

> After watching motivational video during training, it was inspiring, but it did not remain for long (FG5_P8).

Although a participant felt that he had realized importance of working in team, one is required to work with others who had not attended the program. This creates hindrance in implementing learning.

Everybody knows what is right and it may not be practical while implementing, as others may not be thinking the way I do; many other factors do not allow this to happen (FG5_P3).

Soft Skills Training's Inherent Nature: Reason behind No Application or Time Taking Application

Although participants had shared good experiences on training transfer, they had also shared that it would take long time to implement learning from soft skills training.

> Soft skills bring behavior change which cannot come in short time (FG5_P3).

> Implementation takes time. Sometimes it may not happen as expected (FG3_P1).

There are some participants who do not want to give credit to behavior changes after attending the training, as they believe that they have inherent skills. In soft skills training, trainees feel they already have appropriate expertise and they already know 'how' and 'what' part (Laker & Powell, 2011).

> When I already have skills, I don't need to change (FG5_P1).

Soft Skills Training's Application for Job Relevancy Skills Only

Another reality on training transfer of soft skills training was shared by one of the participants, i.e., only those skills, which are relevant to the job holders get implemented and others get ignored.

> As this program is related to my marketing work, I implement it, whereas there could be some other learnings which are not required for me. So, I don't use it (FG4_P6).

Soft Skills Training Having Zero Application Experience

Since learning during training was focused on awareness and no in-depth discussion was done, some participants had found it difficult to implement.

> We know that team building is important, but question on 'how to apply?', "where to apply" is missing (FG2_P8).

Experiences in Training Transfer in Indoor Based Soft kill Training and Outdoor Experiential Training (Soft Skills Based)

The fundamental differences of outdoor based experiential training (OET) (on softs skills) as well as indoor based soft skills training could also be observed among the participating organizations. In terms of training design, outdoor experiential training programs (conducted on soft skills) were of short duration and activity led sessions, whereas indoor based soft skills programs were of long period, which were conducted including various training methods of lectures as well as simulation exercises, such as role plays, case studies and games. Since the duration of outdoor based soft skills program in the study were of short duration compared to indoor based, it was not content heavy, hence in depth discussion and study seemed lacking. One of the participants had mentioned:

> I am aware why team building is important, but I don't know how to implement that. (FG1_P4)

In contrast, as the duration was long in the indoor based soft skills programs, content was also heavy. Hence more detailed discussions were possible. When participants were expected to implement learning back to the workplace, having in-depth knowledge or not could also impact training transfer. Another important difference between outdoor experiential training and indoor based soft skills training explored in this study was perceptions of the participants about the program itself affected in the transfer intention. In the study, outdoor experiential training was not perceived as training in itself by the participants at first hand due to which individuals were not concerned whether they have to implement learning back to the workplace or not. To them, sessions were meant only as the means for refreshments. One of the participants mentioned:

> We had never thought about implementation after attending training, neither HR did ask nor I thought about it. (FG4_P2)

On the other hand, in the case of indoor based soft skills training, participants regarded the program as proper training. Such first-hand perception towards sessions could also have a big impact on the whole experience of training transfer.

Perception on Reasons Behind Successful Training Transfer or No Application from Soft Skills Training

Since the study had captured experiences of participants on learning during the program as well as on training transfer, it had also asked participants to share their views on reasons behind possibility of training transfer or less/no training transfer of soft skills training. Under this last theme, participants' responses had been presented under four categories/sub-themes.

Individual's Willingness and Initiative as an Important Reason Behind Training Transfer

There could be so many other reasons behind successful and unsuccessful training transfer; however, many participants had expressed one very important reason impacting training transfer, i.e., an individual's initiative/ willingness and application of learning differently and uniquely by individual.

> Learning never happens with outsiders' push. Motivation is something that depends on how individual takes it (FG5_ P3).

> People want to be in comfort zone. Implementation depends on individuals; some do not change even after program (FG5_P3).

> We cannot claim what has been learnt (FG1_P1).

Post Training Interventions in Work Behind Successful Training Transfer

Although soft training program could be really effective in terms of learning, many participants in one focus group discussion shared the importance of post training interventions used by the organizations as reflection exercises, peer learning session, study of session wise feedback form by HR and organizational culture of top management support, guidance from supervisor/HR as well as required coaching to implement learning.

> When we heard from peers with examples, it was effective (FG3_P2).

> If we had confusions, we had conversations. With this, it became easier (FG3_P3).

> In one to two situations, when I faced challenge related to team members, I reached out to Learning and Development (L&D) department. Those things learnt in session could not be applied here, and he (L&D Manager) explained in different way (FG3_P3).

> Organization culture and support goes proportionately. In some organizations, there might have been difficulty to implement learning (FG3_P4).

Job Relevance as an Important Reason Behind Training Transfer

There was an important revelation from some participants that although learning might had happened, only those learning required in the job could be implemented.

> Things that are related to individual get implemented, while unrelated ones get ignored (FG5_P3).

Nature of Soft Skills Program Reason Behind Less or No Application After Program

Some participants were also of the view that soft skills program is such form of training that though learning had happened in the program, learning transfer may not have happened. They had expressed that since it takes longer time for behavior change and in case of soft skills training, implementation cannot be realized immediately. Also, another important perception shared by participants was that soft skills training's learning was momentary, as one reason behind it was lack of implementation.

> After participating in such programs, there is realization that I want to make changes for some months; honestly speaking, later on, we forget and are back to normal wither earlier mindset. (FG5_P1)

> Implementation takes time. Sometimes it may not happen as expected (FG3_P1).

> In case of outdoor experiential training, where/how to apply is difficult (FG2_P3).

The findings exhibit that in spite of careful design, the nature of training program influences the experience of training transfer process which suggests careful analysis should be done while planning such training to ensure higher learning application.

Discussions

Soft skills training programs have been highlighted for several features along with the acquisition of non-technical skills. In this study, soft skills training programs have been observed as generating refresher in the private organizations. Besides, individuals' bond with colleagues was found to have improved and trainees' mindsets positively transformed after coming back to the workplace. Such programs boosting the socialization process in the organization have prominent contributions to promote employee's organizational adjustments and boost their self-esteem. It also enhances their job performance through the improvement in their intrinsic motivation (Gardner et al., 2021). Along with skills transfer, such soft skills programs in private organizations serve as the means for socialization which foster employees' organizational commitment.

The study highlights the influences of all three major factors: trainee characteristics, training design, and most importantly, the work environment (Baldwin & Ford, 1988; Ford et al., 2018). The study shows pertinent roles of the employers (work environment) and the need for prior planning to be carried out by the employers regarding post-training interventions in the training transfer process. One of the findings of this study suggests that recording only the reaction level of the participants is not sufficient. Despite positive overwhelming response during the training, the transfer of learning may not occur. Such soft skills training, especially outdoor experiential training as team building programs, are regarded interesting and entertaining, but may not be relevant as a training program (Wagner & Campbell, 1994). Therefore, to assess the overall effectiveness of the soft skills training, training transfer should be assessed for which roles of human resource (HR) managers or line managers come to the frontline. In this study, irrespective of outdoor or indoor training design, the experiences of training transfer level among the trainees varied notably. Therefore, this study made it evident that for effective training transfer to occur, the employers should apply

appropriate strategies, such as peer to peer learning, reflective exercises and some of the post-training intervention activities. Without training intervention plans, such soft skills training only become limited to a refreshing event. Past studies (Example: Richman-Hirsch, 2001) also have indicated strong role of a supportive environment provided by the employer in fostering training transfer and moderating the relationship between post-training interventions and training transfer.

Supportive environment also includes a feedback mechanism (Simosi, 2012), which was also found in this study as an influencing factor in training transfer. Proper and balanced feedback is necessary to improve the post-training performance while excess or improper feedback system adversely affects the motivation to transfer and transfer of training. With regards to the role of feedback in training transfer, taking feedback on the training design and implementation allows the employers to collect immediate responses of the trainees to reflect on positive aspects and work on their weaknesses. Therefore, along with the trainees' motivation to transfer, the employers' involvement in the planning phase of training design collectively have significant roles to foster the training transfer process. Employers can decide on the techniques for training transfer ahead as well as on the evaluation of changes in behavioral level after the completion of such soft skills training.

The study also found that that individual participants' willingness and initiative to transfer the training was also among the key factors in the training transfer process. Trainees having willingness to learn were found to have experienced positive behavioral changes (Charoensap-Kelly et al., 2015). This willingness or motivation to transfer and transfer behavior both are highly influenced by their job relevancy (Bhatti et al., 2014). Such willingness is also affected by their perceptions that they already have inherent skills prior to participating in such soft skills training and therefore prefer not giving any credit to the training for some changes. Soft skills participants feel they already have appropriate expertise and they already know 'how' and 'what' part and because of this, they do not give attribution to the trainer as an expert (Laker & Powell, 2011). Such challenges of ensuring job relevancy perceptions, enhancing the perceived worth of soft skills training programs and fostering their readiness to engage again underscore the need for robust involvement of HR managers or the employers.

One of the major knowledge contributions of this study was that compared to soft skills training programs which are conducted in a stretch of one entire day or a few days, or long hours, those training programs which are organized in bite-sized, micro-sessions and conducted periodically are more effective. Micro learning is designed in such a way that small and focused learning units are developed and accordingly, short-term focused learning classes are conducted or short-term activities are given (Hug, 2005). Such training programs with micro-sessions are conducted in a certain gap of a week or fortnight. After one small round of sessions, allowing participants time and opportunity to implement their learning during that break becomes instrumental to apply the learning. Such design of training reduces information load on the participants, thereby aiding in their learning process (Nikou, 2019). Trainees

can discuss or reflect their experience of application of the learning (eases or difficulties) back in their next consecutive sessions in peer or individually, which adds value to the learning process. Hence, studies (Example: Nikou & Econoides, 2018; Shamir-Inbal & Blau, 2020) also have explained the higher effectiveness of such training which is one of the major findings of this research. Such training programs have been gaining much popularity in recent years (Leong et al., 2021). These programs seem to be simple, yet are effective in reflecting back on what one has learnt as well as what one was un/able to implement. These techniques also align with Laker and Powell's (2011) study which explains that soft skills training takes a long time to implement compared to hard skills/technical skills training (near transfer vs. far transfer).

Conclusion and Future Implications

The study has made an effort to capture experiences of participants regarding training transfer from soft skills programs. The study findings highlight the positive reception of soft skills training during the training which aligns with the reaction level with the training participants expressing enjoyment and perceiving it as both a refreshing experience and an opportunity for learning and socialization. Even though the training was considered helpful in the long run, difficulties emerged when it came to applying the training in real-world situations. Participants found it difficult to effectively apply the acquired soft skills in their professional roles. The training transfer process gets influenced by participants' own perceptions towards the training and also their willingness to transfer the learning. Hence, with the focus of the training on job related skills and post-training intervention activities by the employers and even micro or macro learning activities. More than the indoor or outdoor design, greater significance was held by the content and duration of the program, as well as the employers' role in informing participants to internalize the training program as a learning opportunity rather than refreshing event. These insights underscore the importance of aligning training content with job requirements and activating the roles of the employers to enhance the transferability and practical application of acquired skills in the workplace. With increased awareness among the employers and trainers regarding how the employees experience the training transfer process, they can plan for during and post-training activities to increase their employees' training transfer.

The study holds practical implications at different levels. First, it highlights the need for rigorous training design to the training providers. Though such training programs may be featured with amusements, their relevance and application must be studied through training needs assessment. Second, employers, along with trainers, can explore ways to apply such skills by communicating and reinforcing the learning transfer process. Employers may rethink on the post-training interventions to encourage them to take initiatives for applying the learning. Regarding research implications, this study offers avenues to conduct further studies on specific soft skills based training transfer to generate knowledge on skill specific training transfer. Further, research works can be carried on homogeneous participants to explore the

experiences of training transfer. Studies can also be expanded on other private as well as public organizations which would also ensure knowledge expansion as well as room to compare the experiences of employees of public and private organizations.

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Article

Enhancing Performance of Health Assistants through TVET for Better Healthcare Access

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Abstract

This is a review article exploring critical role of Technical and Vocational Education and Training (TVET) programs in advancing capacities of health assistants and consequently strengthening healthcare access to the rural population in Nepal. The review was planned in the wake of the existing literatures on the study area that lacks a comprehensive examination to explores the role of health assistants in Nepal's healthcare delivery and assess the importance of TVET on their performance. A methodical literature search was conducted using various electronic databases like Google scholar and PubMed applying specific keywords, such as “Health Assistant", "Health Care Access", "Technical Education", "Vocational Education and Training”. It encompassed the studies published in the English language without limiting publication date, while the involved two authors independently evaluated the published articles' eligibility. These authors also carried out data extraction, culminating in a narrative summary of the findings. Of the total 37 literatures, most of them reported health assistant trained through TVET, play a vital role in improvement of healthcare access, thereby addressing the challenges. They bridge gaps in medical access, provide essential care, and promote community well-being, particularly in the underserved areas. TVET programs enhance skills through practical experiences and comprehensive training, resulting into significant improvement in healthcare access, especially in rural regions. Integrating innovative teaching methods and collaborations further enhances health assistant preparedness. Challenges, such as funding limitations and rural-urban divides persist, but opportunities exist in e-learning initiatives, partnerships, and professional development to improve health assistant education. Improving healthcare in Nepal by inculcating better skills to health assistants can address many healthcare problems.

Keywords: health assistant, healthcare access, technical and vocational education and training

Introduction

Healthcare access refers to the capability to acquire services related to healthcare, encompassing activities like prevention, diagnosis, treatment, and the overall handling of diseases, illnesses, disorders, and other health-affecting conditions (“Health Care,” 2024). Health assistants are the professionals who assist healthcare providers in delivering medical care and aiding patients. Their roles vary based on the healthcare setting, typically working under the supervision of doctors, nurses, or other healthcare

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professionals (Jensen, 2016). They perform tasks, such as taking vital signs, preparing patients for examinations, administering medications (under supervision), maintaining medical records, and offering basic patient education (*Health Care Assistant*, 2024). The health assistants play a key role in improving healthcare access, particularly in regions lacking higher-level healthcare providers(Pakenham-Walsh & Bukachi, 2009). Acting as a bridge between patients and healthcare providers in primary care settings, they enhance basic healthcare provision (Hartley, 2004). To help with this, they have special training called TVET that teaches a lot about medical things, practical skills, and how to help communities stay healthy (Van Weel& Kidd, 2018). Powell in 2014 defined "TEVT" as educational programs that offer practical skills and knowledge for specific trades, crafts, or professions, preparing individuals for targeted careers through hands-on training at various educational levels. According to UNESCO and ILO (2002), TVET encompasses a broad concept that includes elements beyond general education which involves the study of technologies and related sciences along with the acquisition of practical skills, attitudes, understanding and knowledge pertaining to individuals in different sectors of economic and social life. In Nepal, becoming a health assistant involves undergoing technical education and training programs overseen by the Council for Technical Education and Vocational Training (CTEVT). These programs are designed to impart necessary skills and knowledge essential for effective healthcare delivery. Spanning duration of three years, the curriculum covers a range of subjects, such as anatomy, physiology, pharmacology, healthcare management and community health that aims to equip trainees comprehensively. This training occurs across various educational institutions, including government establishments, private centers, and non-governmental organizations, incorporating crucial practical experiences through clinical rotations in hospitals and healthcare facilities (Asian Development Bank & Australian Agency for International Development, 2014). Following certification, registration with the Nepal Health Professional Council (NHPC) is mandatory for their professional practice.

The healthcare landscape in Nepal reflects a story of progress amid persistent challenges. Urban centers now showcase improved medical facilities, bringing healthcare within easier reach (Adhikari et al., 2022). Educational initiatives focusing on preventive healthcare have empowered individuals with essential knowledge for better health maintenance (Paterick et al., 2017). Moreover, the introduction of advanced medical technologies, such as telemedicine has extended medical aid to remote corners, enabling distant communities to connect with healthcare professionals (Haleem et al., 2021). Collaborative efforts between the government and international bodies signify a dedicated push toward nationwide healthcare advancement(Beran et al., 2016). However, Nepal's diverse terrain, ranging from plains to towering mountains, poses substantial hurdles in reaching remote areas with limited infrastructures and difficult access. In these regions, access to basic healthcare remains a struggle, compounded by financial constraints and a shortage of healthcare professionals, especially in rural settings (Cothran, 2016).

Nepal faces prevalent health issues despite rich history of traditional medicine (Raut & Khanal, 2011). While the government endeavors to address the obstacles through regulations and strategies(Ministry of Health, 2015; *National Health Policy, 1991*), achieving comprehensive healthcare accessibility nationwide remains a difficult task, calling for investments in infrastructure, amplified health education, regulatory reforms, and collective community involvement to pave the way for a more equitable healthcare landscape in Nepal (Adhikari et al., 2022). So for understanding the importance of community involvement in healthcare access and the role of health assistant who assists as community representative, this review has been done.

This review underscores the key role played by technical education and vocational training programs in Nepal in enhancing the capabilities of health assistants. These specialized programs have proven instrumental in fortifying the skills and knowledge of frontline healthcare providers, enabling them to address the diverse and evolving healthcare needs of the population(Curry et al., 2023). By emphasizing practical experiences, community-oriented strategies, and continuous professional development, these initiatives have significantly contributed to bridging healthcare access gaps, particularly in remote and underserved regions where qualified professionals are scarce(Nguyen et al., 2020).

Although there is an increasing focus on the role of TVET in the development of health assistants who assist in advancing healthcare access in Nepal, there is limited exploration in this field. Existing reviews may provide insights into general trends, but a research gap exists in understanding the needs of health assistants trained through TVET programs.

Purpose and Scope

The purpose of this review is to investigate the importance of technical education and vocational training programs in Nepal, specifically on their role in enhancing the skills of health assistants. By doing so, the aim is to contribute to the improvement of healthcare services, examining both the challenges and advantages associated with these programs. The review places a particular emphasis on understanding how these initiatives impact healthcare delivery, community health, and the overall well-being of the population.

Methods

For this review, databases like PubMed and Google Scholar were queried to identify English language papers published between 2010 and 2023. A thorough search was conducted using various combinations of keywords such as "Health Assistant," "Health Care access," "Technical Education," "Vocational Education and Training," and "Role of Health Assistant." Boolean operators "And" and "OR" were employed to refine the search. Altogether 298 articles were searched and among them 37 articles were ultimately included in this review following the examination of titles, abstracts, and full texts.

Findings

We observed different themes for this review, focusing on what we wanted to study and

important information in related articles. We found a total of seven main themes as per followings:

Role of TVET on Performance Improvement of Health Assistants

Technical Education and Vocational Training programs empower health assistants with enhanced clinical skills, covering diagnostic procedures, patient care, and treatment protocols, thereby enabling them to efficiently deliver high-quality healthcare services(Ghosh et al., 2017). Moreover, specific training modules focus on patient-centric care, instilling effective communication, empathy, and patient education skills in health assistants, leading to heightened patient satisfaction and improved overall healthcare outcomes (Ayeleke et al., 2019). The dynamic nature of healthcare is addressed through technical education, ensuring that health assistants stay updated on the latest medical technologies and procedures, allowing them to seamlessly adapt to advancements in healthcare practices and integrate new technologies into their daily routines (Lewis, 2023). Equipped with knowledge on healthcare systems, policies, and administrative procedures, health assistants can navigate complex healthcare environments with efficiency, contributing to smoother workflow and enhanced patient management (Ahmady & Shahbazi, 2022). Vocational training further allows health assistants to specialize in areas like geriatrics, pediatrics, or emergency care, enhancing their capacity to address unique patient needs and challenges (Ghoshal et al., 2018). The commitment to continual professional development fostered by technical education and vocational training ensures that health assistants remain abreast of industry best practices, evolving with the field over time (Filipe et al., 2014). TVET helped to improve interpersonal skills in health assistants, positively influencing team dynamics and ultimately contributing to improvement of overall healthcare delivery (Prasetyo et al., 2021). Additionally, the inclusion of cultural competency and diversity components in technical education and vocational training equips health assistants to provide inclusive and culturally sensitive care, particularly crucial in diverse healthcare settings (Nair & Adetayo, 2019).

Role of Health Assistants in Healthcare Access in Nepal

Health assistants play a multifaceted role in enhancing healthcare access by engaging in community outreach programs, providing primary care services, and promoting health education (Busza et al., 2018). They actively participate in community outreach to raise awareness about available healthcare services and preventive measures (Zulu et al., 2015). They deliver basic healthcare services, including vaccinations, health screenings, and medical care, particularly in underserved areas where access to primary healthcare is limited (Gauchan et al., 2018). Similarly, the health assistants educate community members on hygiene practices, disease prevention, and healthy lifestyle choices, empowering individuals to take control of their health (Kumar & Preetha, 2012). They conduct health assessments, referring individuals to appropriate healthcare facilities for further diagnosis and treatment, thereby facilitating timely and targeted care(Kruk et al., 2018). Medication management, maternal and child health

support, chronic disease management, and emergency response are integral components of their responsibilities (Bezbaruah et al., 2021). Health assistants, often possessing cultural competence, contribute to building trust and understanding between healthcare providers and patients within diverse communities (Bezbaruah et al., 2021). They also advocate for the healthcare needs of vulnerable populations, striving to ensure equitable access to essential healthcare services (Gauchan et al., 2018).

Health assistants stand as pillars within the healthcare system, operating health posts and primary healthcare centers, and contributing significantly to healthcare delivery across both public and private sectors (Adhikari et al., 2022). They play a fundamental frontline role, offering primary and preventive healthcare services (Gauchan et al., 2018). Their responsibilities encompass conducting health assessments, providing treatments, administering medications, offering health education, and steering community health program (Woldie et al., 2018). Their crucial presence in remote and underserved areas substantially enhances healthcare access, catering to communities that might otherwise struggle for essential medical care (Curry et al., 2023). These contributions effectively address immediate health needs, prevent illnesses, and promote overall community well-being, making them vital in pursuit of equitable healthcare and improved public health outcomes(Adhikari et al., 2022). Despite challenging geographical diversity and limited healthcare infrastructures, health assistant program initiatives strive to achieve fundamental right of the people, including marginalized communities' access to quality healthcare in Nepal(Wasti et al., 2023a).

Role of TVET on Empowerment of Health Assistants

The empowerment of health assistants is significantly enhanced through TVET. Professional development initiatives encompassing technical education and vocational training programs are available to health assistants (Šulinskaitė et al., 2022). These programs offer comprehensive instruction in fundamental medical procedures, patient care, and specialized skills relevant to diagnostic or clinical laboratories, including proficiency in drawing blood samples and handling specimens (Scott et al., 2022). The training also includes the acquisition of emergency medical care skills, such as first aid, cardiopulmonary resuscitation (CPR), and basic life support techniques(Lassi et al., 2013). Moreover, health assistants will be equipped with expertise in essential administrative tasks, such as medical billing, coding, record-keeping, electronic health records (EHR) management, and office administration (Ghoshal et al., 2018). This multifaceted training contributes to enhancement of organizational skills and data management capabilities, providing health assistants with a adequate skill set conducive to advancing their careers in the healthcare field(Ghosh et al., 2017). These educational initiatives provide health assistants with specialized skills, knowledge, and practical training necessary for their roles in the healthcare sector(Mastellos et al., 2018). Technical education equips them with a deep understanding of medical procedures, patient care, and the use of healthcare technologies(Guze, 2015). Vocational training, on the other hand, focuses on hands-on experiences and practical applications, enabling health assistants to efficiently

perform tasks related to community outreach, primary care services, and emergency response(Curry et al., 2023). Through a combination of theoretical knowledge and practical skills, technical education and vocational training programs contribute to the overall competency and professionalism of health assistants (Woldie et al., 2018). This education empowers them to effectively navigate the dynamic healthcare landscape, providing quality care and health education to diverse communities (Scott et al., 2022). As a result, health assistants emerge as skilled professionals capable of addressing the evolving needs of the healthcare sector and promoting community well-being (Cao et al., 2021).

Case studies highlight successful vocational training programs like the utilization of mobile health camps equipped with trained health assistants to reach remote communities, providing essential care and health education (Banzhaf et al., 2022). The impact assessment of enhanced training programs reveals tangible improvements in healthcare access, showcasing expanded services, reduced health disparities, and increased community engagement(Ranabhat & Acharya, 2020). These advancements underscore the transformative power of innovative training approaches in empowering health assistants, ultimately strengthening Nepal's healthcare infrastructures and fostering improved health outcomes across diverse communities(Mahat et al., 2013).

Challenges Facing Healthcare Access and Empowerment of Health Assistants through TVET Programs in Nepal

In the Nepalese context, there is a lack of robust healthcare infrastructures, particularly in remote and rural areas, where basic medical facilities, such as hospitals and clinics are scarce or nonexistent (Bitter et al., 2021). This deficit intertwines with profound accessibility issues, exacerbating healthcare disparities because difficult terrains and inadequate transportation hinder the delivery of crucial medical services to these remote regions (Cothran, 2016). Scarce healthcare resources, where only 60% can access essential services, alongside a shortage of professionals in rural areas, worsen the issues of accessing quality healthcare (Gauchan et al., 2018). Compounding these challenges is a persistent shortage of healthcare professionals, including doctors, nurses, and midwives, especially in underserved areas, resulting in compromised healthcare delivery and limited access to essential treatment (Tamata & Mohammadnezhad, 2022). These deficiencies collectively contribute to existing gaps in healthcare services, leaving sizable population without adequate medical care, thus underscoring the urgency of comprehensive strategies to address these pressing healthcare challenges in Nepal (Wasti et al., 2023b).

Similarly, Nepal is facing distinctive challenges in empowering health assistants through TVET programs. Limited resources and funding limitation present a pose severe challenge, impacting the availability of modern educational tools, and infrastructure(Ghimire et al., 2013). The outdated curriculum is another hurdle, as it may not align with the evolving healthcare needs and technological advancements (Subedi, 2003). Unequal access to quality training opportunities, especially in rural areas, foment disparities in the preparedness of health assistants (Kawakatsu et al.,

2015). Additionally, the scarcity of proper accreditation mechanisms and standardized evaluation procedures poses challenges in maintaining education quality and ensuring that health assistants meet national healthcare standards (Tripathi et al., 2020). The other challenge include inadequate alignment of workforce structures, where there is weak relationships between higher level health professionals who delegate tasks and the health assistants, a lack of confidence or trust in the capabilities of HAs, and hesitancy to delegate tasks within the higher level health professionals' domain (Snowdon et al., 2022). The rural-urban divide further aggravate these challenges with more resources and opportunities concentrated in urban areas (Banzhaf et al., 2022). Additionally, the demand for health assistants often outstrips the supply, leading to shortages in certain regions (Naicker et al., 2009). Retaining trained health assistants in remote and underserved areas can be challenging due to limited amenities and professional isolation (Cothran, 2016).

Opportunities for Improvement

Amidst these challenges, there are significant opportunities for improving health assistant education in Nepal. E-learning initiatives, for example, can spur education to remote areas where physical institutions are lacking (Parajuli et al., 2022). Public-private partnerships can help secure funding and resources for these programs, while international collaborations can provide valuable expertise and best practices(Jensen, 2016).

Similarly, curriculum enhancement is crucial, focusing on practical, community-oriented training modules that mirror real healthcare scenarios (Lateef, 2010). Integrating the latest medical advancements and technology within the curriculum is essential, allowing HAs to adapt to evolving healthcare needs (Guze, 2015). Establishing stronger partnerships between educational institutions and healthcare facilities can provide hands-on experiences and clinical rotations, bridging the gap between theory and practice while providing technical education and vocational training to health assistant program (Saifan et al., 2021). Additionally, investing in modern teaching methodologies like simulation-based learning can better equip HAs with practical skills (Lateef, 2010). To ensure the program's relevance, regular updates and assessments of the curriculum based on evolving healthcare demands are necessary(Couper et al., 2018). Moreover, incentivizing continuous professional development and career advancement opportunities post-training could encourage HAs to work in underserved areas, bolstering healthcare access where it is most needed(Bärnighausen & Bloom, 2009). Strengthening TVET education for health assistants through these avenues can significantly enhance their preparedness and effectiveness ultimately facilitating healthcare access across diverse communities.

Furthermore, continuous professional development and career advancement opportunities can incentivize health assistants to stay in rural areas, where their services are needed the most(Henderson & Tulloch, 2008). By addressing these opportunities, Nepal can not only strengthen its health assistant workforce but also enhance healthcare access for its citizens (Kuikel et al., 2023).

Conclusion

The importance of healthcare access in Nepal is emphasized as a cornerstone for improving public health, addressing prevalent health related challenges, and reducing mortality rates, especially in far-flung areas. However, the country faces pressing healthcare challenges, including lack of robust infrastructures, accessibility issues, scarce resources, and inadequacy of technically sound healthcare professionals. Health assistants, trained through technical education and vocational programs, play vital role to address these challenges by operating health posts and primary healthcare centers. Despite their valuable contributions, challenges in health assistant education programs include funding limitations, inadequate infrastructure, difficulties in recruiting qualified instructors, and the rural-urban divide. Opportunities for improvement lie in provision of career ladder for health assistant, e-learning initiatives, public-private partnerships, curriculum enhancement, integration of technology, and incentivizing continuous professional development for health assistants, which can collectively strengthen Nepal's healthcare workforce and enhance healthcare access across the marginalized and deprived communities. Importantly, political will to attach high priority to this issue is equally important.

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Article

Development of Employability Skills through Work-Based Learning

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Abstract

Employability is the ability to participate in the workforce. It comprises a variety of elements that are required to obtain employment, while the skills needed to get employment are employability skills. These skills are essential for upgrading knowledge, skills, ability, and entrepreneurial enthusiasm of a learner. Work-based Learning (WBL) is an education strategy that increases participation in Technical and Vocational Education and Training (TVET) because there is support to enhance employability and upgrading skills for a competitive market. The aim of this article is to systematically review published research and explore the employability skills enhanced by WBL through the school-production unit. The finding of the review shows WBL in the school production unit of TVET institute is a positive indicator of employability, and they develop valuable competencies and employability skills. The review further shows that students enhance subject-specific technical skills, generic skills, or soft skills like communication skills, teamwork, problem-solving skills, critical thinking, leadership skills, entrepreneurial skills, and management skills. Likewise, they enhance personal skills like self-confidence, a positive attitude, and ethics. The article concludes that students gained their technical, generic, and personal employability skills from WBL through the school production unit in TVET institutions.

Keywords: work-based Learning, TVET, employability, employability skills, school production unit

Introduction

Enhancing employability of graduates is a primary objective for both students and Technical and Vocational Education and Training (TVET) schools. Employability refers to the capacity to engage in work and encompasses a range of factors that are sufficient to secure employment (Yorke, 2010). According to Zegwaard et al. (2017), employability mostly consists of technical skills and general abilities that are necessary for graduates to be deemed employable. Employability skills refer to the abilities that employers consider necessary for newly hired graduates to effectively perform in the new work setting (Geel, 2017). Employability skills encompass a set of crucial abilities that must be cultivated in each person to establish a productive and competent labor force. These employability skills play a significant role in enhancing the learner's knowledge, skills, abilities, and entrepreneurial passion. These abilities enhance graduates' preparedness for

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work and their ability to excel their chosen professions, thereby benefiting themselves, their teams, the community, and the economy (Kuh, 2008; Robinson, 2000; Yorke & Knight, 2007).

Work-Based Learning (WBL) is a learning process defined as "learning for work, learning at work, and learning through work" (Gray, 2001). WBL is a learning approach that enables students to make informed career decisions, establish connections with possible employers, and develop job-related skills that are applicable to future employment opportunities. Students can augment their personal and professional growth by engaging in work-related activities within a professional environment (Mohamed & Omar, 2010). WBL exemplifies the integration of theory and practice, serving as a foundation for the essential academic and occupational training required for TVET students (Cope, 2005). WBL can also implement student-centered learning, where the teacher assumes the role of a facilitator who aids students in their learning journey by offering necessary support.

The work-based learning programs commonly offered in TVET polytechnic institutions to prepare learners for the transition to work from the classroom include field trips, school-based production units, job shadowing, internships or practicums, clinical experiences (in health-related subjects), cooperative education, and youth apprenticeships (Haruna & Kamin, 2019). Every type of WBL program is a meticulously designed educational opportunity that combines classroom instruction with practical, well-organized work experiences.

The school production unit is an important WBL category, which is a section within a school's laboratory or practice area where resources and personnel are utilized to produce goods or services. It facilitates student-centered learning and allows the instructor to serve as a tutor, aiding students in their learning process. Students produce goods and services in school production units under the supervision of competent instructors, allowing them to learn in a less restrictive atmosphere with little instructor oversight (Chukwu et al., 2019).

The Council for Technical Education and Vocational Training (CTEVT) in Nepal promotes the establishment of school production units in its constituent schools. A constituent school refers to one of the individual schools that is CTEVT's own school. These schools are considered integral parts of the CTEVT and contribute to its overall mission and objectives. This initiative aims to enhance the practicality of education by integrating classroom learning with the application of creativity and innovation in the production of goods and the provision of services to enhance students' employability skills.

This article examines the implementation of a school production unit as work-based learning and explores how this practice enhances employability skills. My current study answers the research question: How does work-based learning through the school production unit develop the employability skills of TVET students?

Methods

In order to gather answers to the above research question, I conducted a thorough electronic online search of databases, including the Research for Life, Google

Scholar, and ProQuest, using terms such as 'work-based learning', 'school production unit', and 'employability skills'. I limited my search to literature published after 2013. Using quite one form of searching strategy reduces the potential for an incomplete or biased search and improves rigor. Duplicate publications were identified and excluded. I shortened and reviewed the chosen twenty studies for the school production unit, including WBL and employability skills. I summed up the key findings of employability skills from the perspective of work-based learning through the school production unit.

Findings and Discussion

The findings of this review show that TVET graduates can enhance various types of employability skills through WBL from school production units of technical and vocational institutions. Most of the studies show various employability skills, including soft skills (Asonitou, 2015; Christo- Baker et al., 2017; Orrell, 2018; Robertson, 2018), also known as generic skills (such as communication, organization, and teamwork), technical skills (Keiper et al., 2019) related to specific subjects hard skills and personal skills (Barker, 2014 ; Pescante-Malimas, 2017) such as resilience, self-confidence, and discipline. This article presents the findings based on the following categories of employability skills to provide a clear indication of how to enhance graduates' employability abilities. This classification system categorizes the skills into three distinct skills.

Technical Skills

Technical skills refer to the collection of information and skills that are necessary for proficiently carrying out a certain occupation. Technological competencies refer to the specific knowledge and skills required to efficiently perform specialized tasks utilizing relevant technological equipment and tools (Zaharim et al., 2009). The term "subject-specific skill" pertains to the specialized knowledge and competencies that are exclusive to the execution of a given occupation, such as doctor, chemist, or engineer. Proficiency in a specific field is a prerequisite to many technical occupations, and businesses still highly value this type of specialized knowledge. Employers select individuals for their organizations based on their subject-specific technical knowledge and skills (Bridgstock, 2017). Learners commence their professional work-based practice within the school production unit, engaging in authentic work tasks specific to their technical specialty. These techniques improve learners' technical skills in their respective professions, ultimately enhancing their employability through work-based learning in the school's production unit.

Generic skills

Generic skills, sometimes referred to as key competencies and soft skills, encompass the qualities and talents required for success in both professional and personal contexts. Generic skills are also known as core skills, key skills, important skills, basic skills, and workplace expert abilities (Gibb, 2004). These skills are essential for enhancing interpersonal relationships and improving job performance in the workplace (Sharma, 2018). Employers are primarily interested in the proficiency of generic skills that recent graduates should have before joining the workforce (Olivares et al., 2019). WBL

enhances one's ability to think about their career and acts as a valuable tool for career guidance. It helps individuals explore many potential professions and alternative options for education and training that might complement their professional path (Musset & Kurekova, 2018). The school production unit workplaces offer a conducive atmosphere for students to develop valuable transferable skills. The classification of generic skills is divided into the following sub-categories.

Communication Skills

Communication is the act of transmitting and comprehending information between two or more individuals. It involves a sender conveying meaningful information to a receiver (Bhat & Kumar, 2013). According to Bhat and Kumar (2013), communication is the act of expressing thoughts or transmitting information between individuals, either formally or informally, with the intention of achieving mutual understanding. Graduates must possess the ability to read with precision, contemplation and engagement. Proficiency in persuasive writing and speaking, as well as the ability to provide and take feedback, is essential to students (Horn, 2009). Employers express contentment with the technical proficiency of graduates although they find their communication abilities slow off the mark. WBL enhances students' communication skills as an integral component of their learning methodology. WBL methods enhance communication skills through increased contact during the learning period, enabling individuals to meet industrial needs. This is due to the fact that students who have engaged in work-based learning possess tangible work experience and are familiar with the practical functioning of the actual world. Consequently, implementing WBL through school productions enhances the communication abilities of pupils.

Teamwork Skills

WBL enables individuals to acquire teamwork abilities, a crucial soft skill sought after by employers. Employers require competent people with standardized employability skills to enhance the productivity of their organizations. Collaboration is a crucial employability skill for achieving success in the workplace. WBL through school production unit enhances students' levels of involvement, active involvement, and completion rates. Additionally, it can enhance the bond between the educational institution and the local community (Dogara, 2020) and enable students to perceive the practical relevance of their classroom knowledge (Alfeld, 2015). Evidence suggests that WBL enhances students' attendance and punctuality while also fostering their collaborative skills and problem-solving abilities within the classroom. Teamwork is a valuable skill that entails establishing connections and collaborating with others by utilizing essential strengths and routines in WBL. These include working effectively in a team, sharing experiences and feedback, engaging in effective communication, demonstrating a sense of responsibility, adhering to established practices and preferences, and participating in group decision-making (Alghamdi & Bach, 2018).

Problem-solving skills

Engaging students in school production units through WBL enhances their problem-solving abilities. This is a crucial generic skill that contributes to the enhancement of

employability skills. Problem-solving arises when there is a disparity between the present situation and a desired future situation. Due to significance of problem-solving in professional settings, it is the duty of TVET institutions and teachers to aid students in cultivating their essential abilities through work-based learning. TVET institutions and teachers can achieve this by providing students with opportunities and creating environments that facilitate the acquisition of problem-solving expertise (Daft & Marcic 2014). Problem solving necessitates that a student engages in creative, imaginative, critical, and analytical thinking. Additionally, they must possess the ability to use their acquired knowledge to address various challenges (Acar & Newman, 2003). The utilization of work-based methodologies within the school's production unit facilitates the cultivation of problem-solving abilities among students by providing them with practical experience in the process of reaching a viable solution.

Critical Thinking Skills

Critical thinking refers to the deliberate and self-regulated process of making decisions. Olivares et al. (2019) demonstrated that engagement in work-related tasks through work-based learning facilitates the cultivation of critical thinking skills. Critical thinking, as a cognitive ability, requires the use of logical and well-organized concepts in order to solve problems (Dwyer et al., 2014). Enhancing one's critical thinking abilities enables learners to construct arguments that are lucid, accurate and impartial. Additionally, they possess the ability to make sound decisions and assess circumstances impartially through the process of analyzing and evaluating information. Work-based learning encompasses more than just problem-solving, since it also involves acquiring new information, abilities, and facts as well as developing critical analytical skills. These elements finally contribute to sustained learning (Briga et al., 2010). WBL demonstrates several essential talents that employers require, such as maturity and emotional intelligence, as well as abilities in team-building, negotiation, communication, and interpersonal interactions. Engaging in work-based learning inside the school production unit is expected to help young pupils develop critical thinking, creativity, innovation, confidence, tolerance, social awareness, democratic values, and a sense of responsibility.

Leadership Skills

The student possesses the capacity to exert a positive influence on the activities or behaviors of others towards the attainment of a shared goal. Employers want their staff to possess leadership abilities. The three fundamental components of leadership are capacity, inspiration, and a conducive atmosphere for leaders. Leadership talents consist of four levels of comprehension regarding the fundamental concept of leadership: the aptitude to guide projects, the competence to comprehend, the interchange of duties between the team leader and team members, and the skill to supervise team members (Leithwood et al., 2008). Students can cultivate leadership abilities by engaging in work-based learning, which involves applying creative thinking to generate imaginative conversations and foster transformative change (Passila et al., 2016).

Entrepreneurial Skills

The possession of entrepreneurial talents is the paramount determinant of a nation's economic growth and competitiveness. WBL can offer valuable opportunities to the students from various fields for transformative learning experiences that strengthen their entrepreneurial competence. This approach has good impact on the development of entrepreneurship skills by actively incorporating students in entrepreneurial activities through a school production unit. Acquiring entrepreneurial abilities is crucial for students during their early years of schooling or later stages of college (Ali & Mahmod, 2018). Participants in work-based learning can explore career options, develop a sense of risk awareness, and enhance their ability to think creatively and innovate within the realm of business and work-related tasks through involvement in school production units.

Personal Skills

Personal qualities refer to the positive attitudes and traits that an individual possesses and uses to succeed in his/her profession, including getting, retaining, and achieving success (Zaharim et al., 2009). Employability encompasses a student's ability to actively develop, obtain, adjust, and continuously enhance the skills, knowledge, and personal qualities that enable them to secure and generate financially and personally fulfilling job prospects (Oliver, 2015). WBL improves individual attributes and skills by acquiring expertise in collaboration, effective communication, critical thinking, and analytical proficiency within a production unit based in an educational setting. WBL can develop the following personal skills to enhance employability:

Self-confidence

The school production unit facilitates WBL, giving students the opportunity to develop maturity and confidence through their interactions with various adults who serve as their colleagues (Neyt et al., 2018). When learners are provided with the chance to demonstrate their abilities, successfully tackle tasks, and overcome challenges in a professional setting, WBL can enhance their self-esteem and self-efficacy (Darche et al., 2009). Students who may struggle academically and are perhaps discouraged by the emphasis on theoretical concepts in certain general education courses can find WBL particularly motivating.

Positive Attitude

A positive attitude incorporates traits, such as self-regulation (the ability to control one's reactions to circumstances), self-motivation, adaptability, resilience in the face of work-related stress, accountability for one's actions, and efficient time management. Personal attributes, such as self-assurance, integrity, proactivity, and an optimistic mindset have a greater impact on WBL compared to conventional educational environments, hence enhancing crucial employability skills.

Ethics and Moral Skills

Students demonstrate the capacity to reflect upon, scrutinize, and evaluate ethical dilemmas while also employing moral discernment in situations that pertain to their own self, their occupation or field, and surroundings through experiential learning in the school's production unit. Adhering to both elevated professional and ethical standards is necessary to foster positive social connections and achieve prosperous

professional endeavors. According to Ali and Mahmod (2018), there are three stages involved in the development of professional ethics and moral skills. These stages include: understanding how economic, environmental, and socio-cultural factors influence professional practices; being able to evaluate ethical problems and make informed decisions to solve them; and demonstrating ethical behavior while also recognizing one's social responsibilities. Exhibiting ethical commitment is the capacity to act in accordance with moral principles, especially in the face of potential personal harm. Work-based learning initiatives cultivate this attribute, thereby enhancing one's employment opportunities.

Conclusion

There are many forms of work-based learning programs, but they are all working towards the same objective, which is to provide students with practical experience in the working world. The school-based production unit is one of the important categories of WBL which is responsible for promoting all three categories of employability skills. These skills are soft skills, also known as generic skills (e.g., teamwork, communication, etc.), discipline-specific technical skills (e.g., the skills of a professional subject), and personal attributes (e.g., self-confidence, ethics), which are relevant to employment and desired by employers in their institutions with the goal of enhancing graduate employability skills. On the basis of the discussion of this study, it can be concluded that the implementation of work-based learning through the school production unit is beneficial for increasing the employability skills of TVET students.

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Article

Vocational Training Instructors' Perceptions towards Transfer of Training: A Case Study

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Abstract

This study is about how the participants of short-term training perceive training in the real context. The study is done with the help of an interview, where the participants are the trainers of short-term vocational training programs. The major finding of the training is that the participants have gained information about new methods and media. They perceived the training in a very positive way, and most of them understood the training as a booster of their professionalism. But the training was more focused on the instructional purpose than gaining skills. The main thing is that they realized the preparation and management of the training were very important. This study highlights that the training was more focused on the instructional skills and knowledge, and some presentations were made based on the skills. It also revealed that the implementation of instructional skills-based training in the participants' real workplace is challenging. Management of learning environment, preparation, and delivery are difficult to transfer in a real working situation.

Keywords: short-term training, perception of training, knowledge centric, skills

Introduction

In Nepal, the Council for Technical Education and Vocational Training (CTEVT) has the mandate to develop basic and middle level human resources. The vocational education and training is not just to certify, but it carriers higher value and expectations in terms of developing entrepreneurship and skilled human resources which not only contribute to elevate livelihood of citizens in any country but also pave way for national development. Skilling people is therefore essential for national prosperity. 'One person, one skill, and skill for livelihood' are slogans in the TVET sector. But how is the TVET training? Is it related to the demand of the people, which finally leads to job placement and sustainable livelihoods? The way of being skilled and gaining knowledge and skills through training and its implementation warrants attention.

Training finally has to result in professional development, while the institutional output a byproduct. For this to happen, the training providers and the needs of participants should match. Otherwise, training will have no effect nor have noticeable implementation. Trainees' perceptions towards training, their likes and dislikes, and meeting their needs through the training play a vital role. In this

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study, the perceptions of the trainees towards training have been explored. This study includes a literature review, methodological assumptions, findings, discussions, cross-case analysis, and conclusion.

Problem Statement

The Technical and Vocational Education and Training (TVET) is taken as one of the major facilities to contribute to the development of any nation. This is due to the knowledge, performance, and attitude of the TVET practitioners in the field of different short- and long-term training and education. TVET is focused more on practical education, followed by the performance of the students. Theoretical knowledge is the base, and practical knowledge is the main.

In the context of Nepal, there are different training providers, and the trainers are given some special type of training known as training of trainers (ToT). This helps them use different methods and methodologies in classroom delivery. This focuses on the planning phase to design, develop, implement, and evaluate. The participants who have gained skills and knowledge during the short-term training are equipped with ToT. However, questions persist: Are they really getting the training they need? How effective is the training in terms of technical education? These are worth mulling and considered some of the challenges in the transfer of training.

Also, the training delivery affects transfer of training. In a business world that is changing fast, training is considered one of the most effective tools to enhance employees' knowledge, skills, and behavior (Seyler et al., 1998). Similarly, the motivation of the person to learn and transfer skills to the workplace is another factor (Facteau et al., 1995). Without motivation and transfer of training, the training will not be successful. So, training delivery process is another important aspect (Karim, Huda, & Khan, 2012).

If the training is not as per trainees' needs and interests, the transfer will be difficult. In order to achieve successful training transfer to the workplace, the training program should be relevant to the job (Axtell, Maitlis, & Yerta, 1997). This states that if the training and the working environment do not match, the trainer will not implement it meaningfully. Thus, the major gap that is seen in various literatures is the difference between the perception of training and the practices of training in the real workplace. This helps to explore the training effectiveness and transfer of the training by the participants.

Research Questions

The major research questions are:

1. How do the training participants perceive training?
2. How are the participants managing the training which they have to conduct?
3. What are the challenges in transfer of the training?

Methodology of the Study

I have presented my philosophical positions based on a non-positivistic research paradigm. My actions and beliefs are shaped about the research study through the case study. A case study is presented in it. I believed that my participants were discursive, had the

capacity for linguistic formulation of their ideas, and possessed sufficient knowledge in order to articulate their meanings (Brewer, 2000). The epistemology of my study is subjective and context-oriented. Moreover, in a conversational way, I acquired the experience, feelings, perceptions, and meaning within relative contexts (Creswell, 2012). Furthermore, it included knowledge based on the interview and observations on the perceptions and practices of the participants.

In my study, the ontology was about the trainee's reality, perception, and practices about training, which exist in the form of multiple natures of knowledge, and means multiple realities, covering several opinions, perceptions, beliefs, knowledge, and understandings (Creswell, 2012) regarding the training.

The participants are the trainers who have taken ToT. The snowball sampling and random sampling were followed. The selection of the participants was made on the basis of their participation in the training. The participants are those who have taken ToT and are working as trainers. The number of females in the TVET sector is less than that of males because of traditional beliefs (Ngure, 2012). CTEVT also focuses on gender and inclusion policies, so the female participants were chosen as the participants of the study.

Participants of the Study

The first participant is Resha (pseudonym), who is in a tailoring occupation and belongs to a middle-class society. She has been tailoring for the last 5 years. She is from Palpa and has been residing in Bhaktapur for the last 7 years. At first, she came to Kathmandu, seeking a job after completing the School Leaving Certificate (SLC) examination. But she could neither study further nor get a good job. She was staying with her uncle and aunt in the beginning. Later, she had to struggle much for the accommodations and the job. She got a job as a helper at a school. She was suggested by some friends that she took the training in tailoring, and she did it. Now, she is working as a tailoring trainer and is always busy training new participants. This shows how females have to struggle and adjust to society.

The second participant is Usha (pseudonym). She is originally from Jhapa and has been living in Kathmandu with her parents. She has done Bachelor's in Hotel Management and is developing her career as a trainer. At first, when she was planning to choose hotel management, she shared that it was a big decision for her parents to allow her to study hotel management. She also shared that after the completion of her study, they were not willing to help her find a good job in the relevant field. She has faced barriers and challenges as a female all the time in her career. Her parents do not want her to work in a hotel, as their understanding of a hotel is conservative. So, after she completed her hotel management study, they tried to convince her to change subject and choose her career in some other fields.

The third participant is Binita (pseudonym), who is from Bhaktapur. She is also from a middle-class family. She has a brother and a sister. Her parents are farmers, but the farming is not sustainable for their livelihood. From a young age, she started helping her parents in the field. She had to drop out of school after eighth Grade because of her poor financial

condition. Doing some household work and helping parents, she knew from her friends that vocational training is provided to the needy ones by a project. She then joined the training by meeting every requirement. Before joining the training, she had taken a beautician training. Beautician training is skill-based training, so she needed ToT for instructional skills development.

Reena (pseudonym), from Baglung, is a 26-year-old girl. She has come to Kathmandu for her career after completing the SLC examination. But she couldn't get a good job. Even the salary was very low, as she worked at a school as a helper (sweeper). She remembers, "I was unable to sustain myself with the salary I got and had no option but to struggle more." Then she found a friend with whom she shared the room to lessen her financial burden. But it was not sufficient either. She recalled that she was even unable to contact her parents, for she did not have enough money to support her parents to buy a phone set. She knew that vocational training was provided to the females on a need basis for different skills, and it was free. Then she joined 3 months of tailoring training with the hope that she could make tailoring her profession. She also knew that ToT was necessary for her and continued seeking opportunity for it. Later on, she got a chance to join the ToT and got a good opportunity to make her career bright. Now she is a trainer of tailoring at her own tailoring training service, and it has been a way of her livelihood.

All four participants were selected as per the notice announced by the training organization, which was published in a national media and also updated on the institute's website. They applied by mentioning experiences and education. Later, they were s elected. As per training schedule, they took training on different dates. Among the participants in the training, the study participants were selected.

Perception and Management of Training

Their perception of the training is based on their participation in it. In perception, how the participants perceive the trainers, the available materials, training environment, training methods, and delivery system of the training were observed. The management of overall training from the beginning to the end and its planning and preparation were noted. Here, perception is only about the training and its management within the training period and environment.

Training is perceived differently by different participants. During the training, different methodologies were used; the way of delivery was used; and the training manual, course information, and the content were used. If we see Kirkpatrick's model of training measure success (1983), the first measure is the reaction level. It means how the trainees react after the training. This is the first level of training (Kirkpatrick,1994), and it is the immediate feedback of the training too. This level helps to know how the trainee felt about the training. Also, adult learning strategies help to achieve advanced results.

Human Capability Theory

According to Lichtenberg (2009), "capability" refers to the range of functioning that an individual is free to accomplish. According to Sen (1999), capacity is "the substantive freedom to achieve alternate functioning combinations." Sen believes that human

growth is a function of people and their actions. Sen suggests the terms "capability" and "functioning," among others, to understand people and their behavior.

The human development paradigm in development policy circles has its roots in human capability theory (Fukuda-Parr, 2003). The focus on people's actual abilities—that is, their capabilities—is the fundamental feature of the capability approach (Robeyns, 2003). According to the capacity approach, each person's uniqueness and independence are valuable. Likewise, trainers who have completed the program are free to interpret and use the knowledge in their respective work environments. By distinguishing between the capability level and the functional level of the problem, the capability approach offers a fresh and valuable viewpoint on the training participants who are practicing and executing the training.

This implies that it is helpful for comprehending teachers' perspectives on training as well. Likewise, this methodology enables researchers to examine how these trainers are using their acquired knowledge and abilities in the actual workplace. It also provides guidance on identifying the risks and impediments faced by trainers who have encountered difficulties when implementing training transfers. The main goal of this strategy is to provide these trainers, who are keen to advance in their careers, with the flexibility they deserve. The abilities and performance of the participants are examined in my study. When opportunities are given in line with abilities, training implementation is evident, and the transfer of knowledge becomes effective.

Resha: Tailoring as Her Occupation

Among them, Resha (pseudonym) was working in Kathmandu. I thought she would be the first participant in my study and asked in detail where she was working and if she could provide me with time for my purpose. She agreed on it, and I planned to meet her. She requested that I meet her at her tailoring center located at Balkot, Bhaktapur. She provided me the time on Sunday, 11:00 a.m., and also shared the location.

I went to meet her as scheduled. She offered me a cup of tea. I accepted it and asked her what type of training was going on. She informed that she was providing short-term training in tailoring for the participants. I asked her if she needed time for preparation. She responded she had already prepared for the next session. She added that she had planned to deliver the theoretical courses within one hour and the practical session in another one hour. But sometimes, the theoretical and practical parts go together.

During my observation, what I saw and felt was that the materials were prepared well. Some of the materials were reused. She had also prepared the assignments to provide with her students. First, she presented the topic with an introduction, followed by the display of the materials. She then presented her skills on how to perform the task to make that product. Sometimes she would show how to take the measurements of the client to prepare the specific clothes, prepare the drafts of the clothes, and sometimes the process of cutting the drafted dress. After doing this, she makes her students do the exercise and guides them. But what I have observed is that the materials were not enough to make them practice, and she was not able to guide all of them.

I asked how she was feeling after her participation in the training. She replied that she learned some methodological parts better after the training. She said, “Training is very effective in terms of making the work simpler by doing all the activities step by step for the participants of the training." Perception is the subjective evaluation of the training (Hussey, 2009), which is relevant to my research participants and their understanding of the training. The first thing is how the participants have perceived training and how they could implement it in their workplace. She said that the training was excellent, and if the training environment could be copied and maintained in the workplace, it would be implemented better. This shows us that perception is the most important aspect of the training. The difference between perception and reality is important because perceptions can become realities (Alipour & Saehi 2009). This is imperative for the participants when perceptions are negative. Nisbett (2003) also highlights that perceptions take shape, and judgments on training's effectiveness and relevancy are made by the time perceptions are formed.

I further inquired with her about the effectiveness of the training. She replied that she felt the training was very effective for her in terms of learning and practicing the skills. She has perceived training in a different way. She said that before coming to the training, she had a mindset that she would be taught and learn what was in her profession, but she got it very differently. She explained training as a part of her profession, as tailoring is the main profession and providing training to tailors is part of that. She further shared, “Training is a supporting aid for the trainer as I learn new skills and knowledge to be more professional." Also, she claimed that the training provided by the organization has been very helpful for her. So, as said by Jackson and Bushe (2007), training for adults is a way ahead for the improvement of professions because training in itself is a professional act of gaining knowledge and skills and improving attitude.

She said that the schedule was well managed and distributed earlier, which was a positive point. Likewise, there was a system of ground rules, and the materials that were needed for the training were provided in advance. This has made her take notes and write down the key points of discussion during the class. The class environment and climate were not managed, as there was no heating system in the winter season, and the participants were suffering from biting cold. The physical environment consists of two major components: the physical component and the psychosocial component (Kilgour, 2006). The physical component includes all physical aspects, such as classrooms, teaching materials, and learning facilities, both inside and outside classroom (Arthur, 2011). Similarly, the psychosocial component is related to the interaction that occurs between students and students, students with teachers, and students with the environment. If the environment had been well managed, the overall situation would have been much better.

Regarding the best practices that she has seen, “the way of introducing each other was very good and impressive." She further added, “I have never done the introduction in that way; one has to introduce his/her friends instead of his/her own." She also mentioned that she was applying it to her training. The context

and the content were very clear and concise, and the facilitators were also very friendly to the participants. She said that none of the trainers showed negative attitude; they were friendly and helpful. This shows that there is no gap between the trainer and trainee, which has made the learning environment fruitful. From this, it is concluded that the trainer's behavior, training materials, methods, classroom environment, training preparation, and pre-existing information on what is going to be taught are necessary to make training effective.

Usha: Determination in Hospitality

After meeting and interviewing the first participant, I asked her if she knew the other participants in the training. She recalled it and provided me with her name and the location of the training institute. I searched for her contact number in the details of the training reports, called her, and shared my purpose of calling her by giving reference to Resha as she gave the location. I shared my purpose for willing to meet her and asked about her willingness and time. She agreed and was ready to share her perceptions and experiences of ToT, saying that she would help me in this regard as my participant. After a short discussion to set the climate, she shared that she shifted her job and also the location. She gave me her new location. I asked her when we could meet, to which she replied that we could meet after a week. So, we fixed date and time for meeting. I went to her training center to meet her on the scheduled date and time.

She extended me a warm welcome. She introduced me to other staff members of her training center. Then we started talking about the training and its usefulness. She is providing training on hotel management, basically cook training. She provides training in the morning. She used to give almost full time to the students to guide them, but sometimes, it becomes difficult for her, as she is engaged in other works too. The training session is sometimes one hour; if the module is too long and should be completed within a single setting, she manages time accordingly. She said, "The time for the training depends on practical and theory sessions; the session time varies."Responding how she perceived the training, she said most of the training approaches were new to her. The training design was done so effectively that she was able to understand what was being taught. She thought that the training was more focused on how to teach than the content of the knowledge and skills they had gained. While focusing on the training content, most of the content is about the delivery process of the training. The schedule was made accordingly. But sometimes, according to her, the schedule was not followed up properly, as the classes were altered with the availability of trainers. The trainers listed in the schedule were not in the classes. This indicates that the poor preparation and management of the training providers also changed the name list. She also added that the education materials and information provided before the training were very helpful and informative, as the ToT is essential and relevant to provide further training by the participants to their trainees. If the training programs are relevant to the job (Kontoghiorghes, 2002), transfer and application will be effective. Some of the participants were not carrying materials like pens and copies, so the materials provided before the start of session were very useful.

She further added that the physical environment in the classroom was very

good. She said, “The temperature was good enough for the classroom purpose, and the classroom was managed in U shape, which made it easy to see all the friends in the classroom." This makes me recall Harris and Chrispeels (2006), who found that the classroom environment has a significant effect on the transfer of training. She added, “The way of ice breaking, the way of making ground rules, and the way of making group division were very interesting.”

The best part that she liked was the competence of the trainers and their effective performances. She told me that the trainers had sound knowledge and skills on the content and participatory facilitation skills. The introduction part was very interesting, according to her experience. So, not only the classroom environment but also the trainer’s attitude, skills, and knowledge have a positive impact on the training (Blair, 2008). The presentation skills of the trainers and their way of giving feedback were positive, as the feedback started with positive things and alternatives were provided to change their way of doing activities. She said she is also able to give feedback in the way she has learned. Earlier, she was just providing feedback in the way she felt, but now she knows that the feedback is what should be changed in the other presentation. So, she is thankful to the training provider.

The key findings from her experiences are that the classroom environment plays a vital role (Baryamureeba & Nahamya, 2014) in enhancing, promoting, and encouraging students’ learning in all academic settings (Fraser & Pickett, 2010). The feedback and its ways to receive and give are also interesting, and positive motivation is provided. Also, the materials prepared by the trainers are praiseworthy. The opening of the training and the materials provided have really motivated her to take part, but she still thinks that the training could have been more effective with proper management.

Binita: Success after Failure

Binita is another participant who lives in Bhaktapur for her livelihood. She was also a participant in the training. I called her, as I got her phone number on the list of training participants. In our first communication, she was very impressed and excited to know my purpose. She had never thought that these vocational trainings would be the area of research. As I asked her when she had taken the training, she responded that she had taken it three years before and was also interested in taking other trainings that she found to be genuinely helpful. We scheduled the date and time to meet. She said that she was ready any time and day. So, I proposed a date to which she agreed.

I went to her office. I had not even imagined that a ToT trainee would be in such a well-managed and well-equipped training hall. The hall was very clean with sufficient light, and the chairs and tables were arranged in a U shape. There was a separate place to keep the training materials. She offered me tea and started to ask me why I chose beauticians like her. I shared my purpose in brief, as she had already known something about it. I asked her how much she paid for rent and how much she earned. I was surprised to hear the income she generates from the parlor- it was huge money. Similarly, I asked her why she did not advertise this business, and she said, “Our society regards negatively to the people working in the beauty parlor. It hasn’t yet been accepted as a decent profession."

She shared her past experience and how she struggled and came to this position. With her earning, she is now able to support her family.

Now she is doing well in training and also in marketing- she has so many customers and trainees. Most of her customers come through references from her existing customers. Wheatley (2006) also suggests that training is associated with constructive goals and the student's orientation. She gives credit to the ToT training, which made her able to share her knowledge and skills with her participants. It has really been a boon for her. She said that, to participate in the training, she had faced huge struggle. She asked people to select her, but there was a selection examination that she should have passed. She asked for help, but finally she passed the selection examination and got the training. She was very happy to participate in the training, as it was mandatory for the youths who have taken short-term training and wish to be trainers in the same field. If they did not have taken ToT, they would not be able to be trainers in skill-based training. When she said this, her eyes were welled up with tears. I listened to her attentively and counseled her to control her emotions. She said, "The training has been a good weapon to fight against stereotypical society and to be independent." This shows that technical training has empowered her to run livelihood comfortably.

Regarding the training, she said, "The training was very fruitful, which gave me the opportunity to be a trainer, and we have learned a lot of things during the training." She also shared, "I learned so many new things, like making groups and introducing each other's presentations with attention in the training." According to her, the way the training was delivered as per the schedule was very good. The ice-breaking, which is the start of the training, was the most interesting section. She further reacted that the resources and the training materials provided to the participants at the beginning of the training with the training manual were very impressive. Dessler (2008) emphasizes human resource development with the capability of skills and knowledge, which is also affected by the environment and materials in the training. The best practices that were seen during the training were: "The two-page skill cards that were provided to the participants covered almost all the content, and the activities during the presentation of those topics were very meaningful and knowledgeable, which were directly associated with the topics." She further mentioned, "I had learned more from the activities than from the skill cards and the content delivered because the skill cards were just the base and the activities were additional materials to make the content of the skill cards clear." This shows that the activities are very impressive, and they are for the participants who can easily understand the first step.

The trainer's skill in engaging participants and making interactive presentations was very good. She said that she was also able to make the participants engage and make the sessions participatory. She added, "The course evaluation form and the debriefing were the best that I knew from the training, and I am implementing them in my daily sessions." This shows that the participant's perception of training has been very positive, and they perceive training as a tool to make changes to what they did not know earlier.

Reena: Passion of Beauty and Work

After the discussion with the third participant, Binita, she suggested me to meet Reena, who is her friend. They both have taken the ToT class in the same group. In a group of ToT class, participants come from different fields, while Binita and Reena are from the same field. I asked for her contact details so I could call her. At first, she did not respond, and I contacted her again. This time, she replied. I told her that I got her contact information through her friend Binita whom I met earlier. I also briefly explained the purpose of contact. She said that she was busy for 2-3 days, as that was the wedding season and she had a lot of bridal make-up in schedule. So, she asked me to visit her parlor after 4 days.

I went to her parlor as agreed where she was waiting for me. I entered her parlor with a smile and greeting which she reciprocated. We started talking about how she was doing. She said that she was busy with her work and that it was difficult to manage time for this meeting. She offered me a cup of tea. The tea talks continued, and I asked how she managed time for the preparation of the training. She said that she was busy with the preparation and delivery of the class, as materials were necessary during the training, which she learned from. She knew the essence of the management of the training. Time, material distribution, and introduction were the things that she thought were important during the training.

The training session in which she participated was very interesting for her, as it was in a new environment with well-equipped furniture, systems, and materials, and the way of presenting and delivering messages was different. The way of performing the tasks was step-by-step which helped her learn easily. She has learned that the training was different from what she had thought. From the beginning, she felt that the training was good. She shared, “When I was selected for the training, I went to the training and got good insights into the training purpose and its method.” She said, "Earlier, I thought that training was only about how things and materials work in terms of skills." But now, she knows that training is about the acquisition of knowledge and skills (Gould & Miller, 2004) and their application. This shows that her mentality of how she would define training has changed, and she is able to define training in her own way.

The best practice that she liked in the training was ice-breaking and introducing a friends.−The materials provided to her were also sufficient, and the interactive way of teaching was good for her. “The physical setting and classroom environment, including temperature, were also created in such a way that everyone could see each other and interact," says Reena. She further added, “While entering the training venue, the environment was very refreshing, as the classroom setting was U-shaped; the materials presented on the pin board and the flip charts were hanging on the walls." Thus, perception of learning and its transfer at work are factors affecting the motivation of the trainee to learn and the transfer of training (Burke & Hutchins, 2007). Before going to the training, she was unaware of this. Likewise, she found the facilitation skills of the trainers, the activities they do, and managing the classroom environment with fun and humor to be effective. She said, “During the 10-day training, I didn’t feel boring even a single day. I enjoyed all the

sessions and also learned at least one skill in a session." This shows the effectiveness of the training for her.

She said, “I spend more time preparing training materials. I don’t like to enter the class without materials." She emphasized without materials, the class can not be effective. Akinsanmi (2008) also agrees that the use of the instructional materials makes newly discovered facts firmly glued to student's memory. The memory of the participants also helps them conduct the task or skill in an effective way. So, she has tried to highlight the importance of visuals in the teaching and learning activities.

Cross Case Analysis

Table 1

Perception and Management of the Participants Towards Training

Participant	Perception and management of the training
Resha	- got new idea about methods - ground rules and materials were provided - felt the training to be effective - unmanaged classroom atmosphere
Usha	- training approaches were new - schedule not followed properly - good physical environment of the class - ground rules and ice-breaking were presented interestingly - trainers’ positive attitude
Reena	- making groups, and introducing each other were new - resource materials were enough - introduction with gain attention - skill cards as valuable products - trainers skill of engaging and making participants interactive
Binita	- new way of introducing each other - materials, well equipped room - effective way of presentation and class delivery by the participants - U shaped classroom, instructional materials - trainers motivating the participants with positive feedback

From the cross-case analysis, it is known that different participants perceived training delivery differently. All the participants said that the training materials—introduction, group division, and ground rules—were very impressive, which was new for them, as they were unaware of the instructional materials before joining the training. The training methodology was also new for them. The classroom was managed in U shape so that each participant could see each other. The class delivery was made very interactive and participatory with group discussions and introductions. But the training schedule, the trainer’s attitude, and making them engaged in the work were found to be different. The trainers were also changed, which caused dissatisfaction among the participants. This shows that the training management was not done properly, as the participants felt some changes during the training.

Findings

The four participants are from different backgrounds. They have struggled to get jobs for their livelihood, and short-term training helped them fulfill their needs. Vocational training has been a boon for them. The participants, after receiving the short-term training, also took ToT program. They perceived the training as a way forward to develop confidence. They felt the training delivery was one of the essential parts of the effective transfer of the training.

The training has helped them become more professional. Regarding the perception of the training, they have perceived it in a very positive way, and most of them perceived it to boost their professionalism. But the training was focused more on the instructional purpose than gaining skills. The main thing is that they realized the preparation and management of the training were very important. The materials provided to them were well managed. The environment was friendly, and a learning environment was provided to them. The well-managed rooms and furniture added value to their learning.

The work environment, classroom setting, preparation and planning are prerequisite to effective delivery. The participants have internalized the fact that preparation before conducting the training is essential. But the challenge is that the implementation of the training in different scenarios is difficult. Managing the working environment, planning on how they are trained, and choosing different delivery styles and methods are the major issues in the transfer of the training.

Discussion

The participants of the study perceived training differently. Training evaluation provides a micro-picture of training results, as it only considers learning outcomes (Alvarez, Salas, & Garofano, 2004). The participants' perceptions of the training delivery were mixed. The training provided by the organization has been very helpful for the participants. Some of them liked the delivery skills and way of delivering with different activities. Planning, preparation and management of the training (Nasaza, 2016) were the main learnings from the training. Perception is a cognitive event by which a person gives meaning to each situation or stimulus according to his or her values, beliefs, and attitudes (Klimoski & Donahue, 2001). This has a direct impact on the performance of the participants (Otuko et al., 2013) in the training and after returning to their workplace.

The assumptions that the participants made prior to the training and their feelings during the training almost matched. But some of the participants thought that the training would be focused on skills related to their occupation, which did not match reality. The difference between perception and reality is important (Alipour & Saehi 2009) in training. Following the training, the participants' primary changes were in how the training was delivered, how satisfied the students were, how they provided feedback, and how they expressed what they had learned. If the changes are not seen in the training, it directly causes the failure of the organization and also lacks its productivity (Abernathy, 2001).

As a result, the training has a bigger effect and has altered how it is delivered. According to Kirkpatrick (1996), the Kirkpatrick model emphasizes that one or more areas of knowledge, abilities and attitude are the most noticeable things following training with verifiable gains. According to Abernathy (2001), if the training is not well received and no visible improvements are made in the workplace, the organization will fail and productivity will suffer, demotivating both the personnel and the management as a whole.

Enhancing employee performance requires training and development (Diab, & Ajlouni, 2015) since it produces a highly competent workforce and supports employees' personal development. The participants have felt the changes during the training in their performance level and presentation style. De Meuse, Hostager, and O'Neill (2007) examined the effectiveness of workplace diversity training on employee performance. The participants felt better performing after returning to their organization or starting a new job. Ampomah (2016) also claimed that training and development are key factors in improving employee performance in organizations.

The learning on different dimensions of training has helped the participants develop confidence. Participating in the training has helped in enriching capabilities of the participants (Baryamureeba & Nahamya, 2014). In a similar vein, the participants felt that the psychosocial component and the learning environment were essential. The general state of affairs would have been significantly better if the environment had been properly handled. Physical and psychological elements make up the two main parts of the physical environment (Kilgour, 2006). All physical elements, including classrooms, instructional resources, and learning spaces both inside and outside the classroom, are included in the physical component (Arthur, 2011) to make the training delivery better. The situation and significance of the work environment (Kontoghiorghes, 2002) help to face the challenges in training. The challenges faced by the participants directly affect their learning. It also hampers the learning situation and the environment.

The application of the training in the workplace is the transfer of training. The participants have applied what they have learned in the TOT, but applying all the components is not easy. Training transfer is the degree to which trainees apply what is learned to their workplace (Pidd, 2004). The transfer atmosphere, support, opportunity and follow-up are the major barriers to the training transfer. The model of the transfer process (Qureshi, Butto, & Tunio, 2017) shows that trainee characteristics, training design and work environment are the main components in the transfer of the training.

Conclusion

All four participants have stated that the training was beneficial, but they are also not fully satisfied with some approaches and strategies they had anticipated learning during the program. It appears that participants who genuinely require instructional training are not being served by the way in which the training is now delivered, but rather according to the goals of the training providers. During the implementation phase, the training should place emphasis more on developing skills than knowledge.

This study has determined that effective training delivery requires careful planning, preparation and management. In addition, a trainer's motivation and sense of self-worth might contribute to the effectiveness of the training they offer. After completing instructional skills-based ToT program, there have been a number of modifications. Following the session, the participants' professionalism and self-assurance increased. The media, techniques, and delivery style are also modified. However, the training

provider institute's learning environment, classroom setting, and classroom ambiance present challenges for the implementation and transfer of the training in their working environment.

Additionally, the female participants are choosing traditional careers over atypical ones since traditional careers are generally better paid and more socially accepted. It demonstrates that, initially, the TVET industry needs to raise knowledge about accepting women who choose to switch from traditional to nontraditional careers. The study finds that, following the instructions, every participant is working and performing better. Women can use technical education as a method of achieving a sustainable life if they are given necessary skills and knowledge in the relevant field. This ultimately leads to TVET being used for the sustainable development of the country.

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Article

Challenges Faced by Apprentices in Completing Dual TVET Course: A Case of Butwal Technical Institute

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Abstract

This article highlights a case on the status of apprentices studying at Butwal Technical Institute (BTI), a pioneer not-for-profit apprenticeship education provider in Nepal. It is seen that the graduates of BTI are earning respectable income and living reputed life; however, the study incompletion rate is found significantly on rise at BTI. To identify the challenges faced by the apprentices to complete their study, a research was carried out, assuming inadequate family support or guidance, poor family economy, unfriendly working environment in the industry, institutional technical inefficiency, and unavailability of amenities in the institute as the five major challenges. As a descriptive method, a questionnaire was used for collecting data from 204 apprentices out of 314 in the study. The family support was a moderate challenge for the apprentice to complete their dual TVET apprenticeship training at BTI. The apprentices of BTI had normal financial support from their families. Another challenge was the environment of industry for the apprentices to complete the dual TVET apprenticeship training at BTI, while institutional technical efficiency was considered a moderate challenge to this regard.

Keywords: challenges, dual TVET, apprenticeship, employability

Introduction

An apprenticeship education system in the Technical and Vocational Education and Training (TVET) sector is a system of education where learners acquire knowledge and skills from a skilled and experienced workforce in the industry, and get theoretical knowledge from their institutes. It has a remarkable impact on developing and the developed countries. This system is also referred to as the dual TVET system in Nepal.

Butwal Technical Institute (BTI) is a pioneer not-for-profit apprenticeship education provider in Nepal established in 1963 as a joint project of the Nepal Government and the United Mission to Nepal (UMN). BTI offers technical and vocational education on the apprenticeship model on engineering and short-term vocational training in different sectors as per demand and requirement. In recent years, the dropout rate has become

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a serious problem, and the study was based on a case of BTI for finding the impact of difficulties faced by apprentices to complete dual TVET course.

BTI has been providing apprenticeship programs since its establishment in 1963. As tThe government has realized the impact of TVET on developing industry, need for dual TVET apprenticeship education is documented with its mention in the 15th five-year plan (National Planning Commission, 2020). The plan deals with preparing a distribution grid based on skills mapping and standards in coordination with the public-private partnership to widen access and create opportunities in the technical and vocational education and training. It helps to generate so that knowledge and skills would be generated to increase employment through an apprenticeship education model.

The Enhanced Skills for Sustainable and Rewarding Employability (ENSSURE), a bilateral project of the Nepal and Switzerland Governments, has been running to strengthen the dual TVET programs in Nepal since January 2016. As per the demand and requirement, the Council for Technical Education and Vocational Training (CTEVT), an apex body of the Nepal Government in the TVET sector conducts apprenticeship programs on mechanical engineering, electrical engineering, hotel management, information technology, automobile engineering, civil engineering (building construction) and early childhood development (ECD) facilitator since 2016.

BTI has a significant contribution to economic and social developments through the creation of skilled workforce. The graduates started their industry and other businesses to provide employment opportunities for the industrial development, thereby propelling national economy in Nepal (Shrestha, 2003). In the dual TVET system, there is a chance to work in the real world of work and hence dual TVET can be the backbone of developing nations like Nepal.

The dropout record of apprentices in BTI is found to be 18.75% in 2017, 21.89% in 2018, 21.74% in 2019, 13.70% in 2020, 11.02% in 2021, and 23.17% in 2023. This shows the number of dropout apprentices in BTI is increasing year by year and this problem is much more similar to other organizations of same nature (Khanal, 2020)

Despite the placement rate of BTI graduates being higher than others, why are considerable BTI's apprentices leaving their training without completing courses in the middle? It is very important to identify the challenges that apprentices are facing to complete their apprenticeship. This study was done to find those challenges.

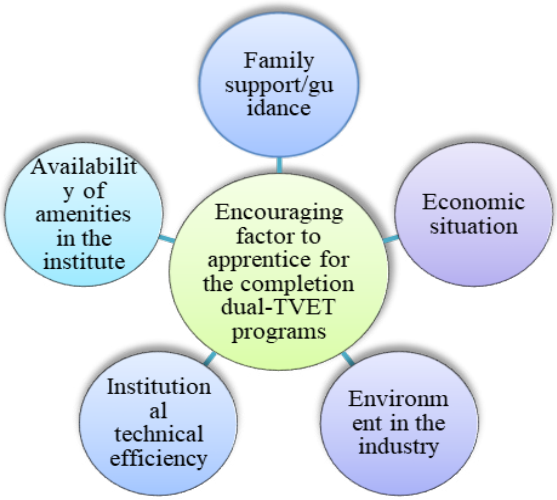
Literature Review

To find the challenges facing apprentices in dual TVET programs, the factors that are assumed to be responsible for encouraging apprentices to complete their training are taken as independent variables. Five factors were considered in encouraging the apprentices and are taken as independent variables. Family support/guidance, economic situation, the environment in the industry, institutional technical efficiency, and availability of amenities in the institute are the independent variables in the research.

The theoretical framework with dependent and independent variables of the research is shown in Figure 1.

Figure 1

Theoretical Framework: Variables of the Study



Family Support/Guidance

noFamily support is considered significant for one's successful career. The support is required to contact the apprentice's family throughout the year and not just when problems arise (Đurišić & Bunijevac, 2017). Hence, improper family support/guidance has been taken as a challenge for apprentices in dual TVET education programs.

Economic Situation

Finance is equally important factor in education. Although BTI's apprentices get a certain stipend during their studies, they are charged some fees for admission and exams. The stipend provided for the apprentices may help them manage their expenses. However, the critical financial status may create an extra burden for getting a good outcome (Khanal, 2020). Therefore, the poor family economy of apprentices can be taken as one of the challenges.

Environment in the Industry

The working environment means the condition of living place where social and physical phenomena can impact people's feelings of well-being, relationships, collaboration, efficiency and health. The working environment in the industry facilitates apprentices to take part in the decision-making process. Flexible working schedule, less pressure of workload, group work, and support and guidance from top management always create a positive impact on their performance, thus making the apprentices more committed towards their duties. Hard work results in high productivity which can be achieved by high motivation and the firms start getting long term benefits (Raziq & Maulabakhsh, 2015). These significant aspects of the work environment have been considered as the challenge.

Institutional Technical Efficiency

Human resources and related physical infrastructures should have higher efficiency in an institute. These determine how productive an institution is. To study the cause behind student drop-out in an institute, the technical efficiency should be taken into account. Any planned attempt reduces wastage of effort and increases efficiency of the TVET system; therefore, it provides additional benefits to the technical workforce without any external inputs (Kulshreshtha & Nayak, 2015).

Availability of Amenities in the Institute

For the effective implementation of training, human, financial, and infrastructure resources are required. However, some TVET providers in Nepal couldn't meet the requirements of the curriculum and human resources,

the outcomes of teaching-learning are less effective and student motivation levels are not satisfactory (Jha, 2013). Therefore, the humility of the apprentice could be down due to the lack of basic amenities in the institute.

Research Methodology

A survey questionnaire form was used to collect data from respondents (BTI apprentices). A causal-comparative design was also applied in the research which helped to find relationships between independent and dependent variables. The study was based on finding the factors that could affect the effectiveness of the apprentice in completing the dual-TVET at BTI. There are three different levels: pre-diploma, sub-overseer, and diploma in engineering disciplines and each level has different programs: three programs at pre-diploma level, two programs at sub-overseer level, and three programs at diploma level. Each program has two batches, but in the case of the civil engineering program, there was only one batch as the program had started this year.

The list of some apprentices enrolled, dropped out, and retained recorded in February 2023 is shown in Table 1:

Table 1

Number of Studying Apprentices Recorded in March, 2023

Dual-TVET Programs	Batch						Remaining
	077-79		078-80		079-80		
	Enrolled	Drop-Out	Enrolled	Drop-Out	Enrolled	Drop-Out	
Pre-Diploma (2 Years)							
Mechanical			40	5	33	5	63
Electrical	Passed Out		40	6	37	0	71
Civil (B&C)			First Batch =>		18	0	18
Sub-Overseer (2 Years)							
Mechanical	21	5	26	4			38
Welding	42	8	10	1	Not Enrolled		43
Mechanical							0
Diploma (2+2 Years)							
Mechanical	21	0	22	1			42
Welding	8	1	16	0	Not Enrolled		23
Electrical	7	0	9	0			16
Total number of apprentices studying							314

(Source: Department of Training, BTI)

The population of the study was total number of apprentices studying at BTI till the date of study. The total number of apprentices recorded in March 2023 was 314, which was the population size of the study. Out of them, a subset of the population was sampled for the study which represented characteristics of the study.

The survey questionnaire form was made both in English and Nepali languages. After finalizing the form, it was distributed directly hand to hand to the apprentices and 178 responses were collected as first step. Later, it was increased to 204 to increase the reliability of data. The data were collected by visiting each class physically.

Table 2

Variable Reliability Test

Particular		Cronbach's Alpha	N of Items
Hypothesis statement:			
1	Family Support/Guidance	0.658	4
2	Economic Situation	0.701	4
3	Environment in industry	0.702	4
4	Institutional technical efficiency	0.753	4
5	Availability of amenities in the institute	0.604	4
Statement of total variables:			
1	Encouraging factor	0.772	20

As in the questionnaire form, there are 5 hypotheses including family support/ guidance, economic situation, industrial environment, institutional technical efficiency, and availability of amenities in the institutes. Each hypothesis has 4 questions and a Likert rating value was provided to each. From SPSS, it was found that the reliability level was 0.658 in family support/ guidance, 0.701 in economic situation, 0.702 in industrial environment, 0.753 in efficiency of the institute, and 0.604 in availability of amenities. As per table, the data reliabilities in 3 hypotheses come under good and 2 hypotheses come under questionable remarks as per internal consistency given by SPSS. However, it is found to be 0.772 in total variables which is acceptable as per table Cronbach's Alpha for reliability test.

Analysis and Result

The value of Cronbach's alpha after reliability testing from SPSS statistics in five hypotheses each having four questions are shown in Table 2.

Frequency Distribution

Age Range

The age range of respondents was categorized into three groups; 16-20, 21-25, and 26-30 or above in the questionnaire form. The information of respondents according to their age range is shown in Table 3.

Table 3

Age Range Frequency

Age Range	Frequency	Percent
16-20	96	47.06%
21-25	104	50.98%
26-30	4	1.96%
Total	**204**	**100%**

A total of 204 apprentices participated in the study. Table 3 shows the frequency along with the corresponding percentage of the respondents who participated in the survey. There were 96 (47.06%) respondents in the 16-20 age range, 104 (50.98%) in the 21-25 age range, and 4 (1.96%) in the 26-30 or above age range. This means that respondents in the age range 21-25 accounted for 50.98% which is more than half of the total respondents, as the majority of respondents who participated in the study were of the 21-25 age range. The age range is 16-20 (47.06%), then comes the second highest number of total respondents where there are only 4 (1.96%) respondents of 26-30 or above years.

Gender

The information on gender-wise respondents is shown in Table 4.

Table 4

Gender-Wise Distribution of Respondents.

Gender	Frequency	Percent
Male	178	87.25%
Female	26	12.75%
Other	0	0.00%
Total	**204**	**100%**

The gender distribution of respondents who participated in the survey is shown in table 4. It is noted that there is the majority of male respondents which is 179/204 (87.25%), whereas female participants are only 26/204 (12.75%). However, the enrollment of female apprentices is also less than the male apprentices in the institute as per recorded data.

Trade

The institute offers dual TVET apprenticeship programs in four engineering skisstradesskis: electrical, mechanical, welding, and civil (B&C). The information on trade-wise respondents is shown in Table 5.

Table 5

Trade-Wise Distribution of Respondents

Trade	Frequency	Percent
Electrical	70	34.31%
Mechanical	75	36.76%
Welding	46	22.55%
Civil (B&C)	13	6.37%
Total	**204**	**100%**

From Table 5, it is seen that out of total respondents, 34.31% were from electrical, 36.76% from mechanical, 22.56% from welding, and 6.37% from civil trades. The highest number of respondents were from the mechanical trade which is 52.44% out of total mechanical apprentices, while the second highest was from the electrical trade which is 80.46% out of total electrical apprentices, the third-ranking respondents were from the welding trade which is 69.69% out of total welding apprentices and the lowest respondents were from civil trade which is 72.22% out of total civil apprentices. Therefore, the proportion of respondents according to their trades has been managed very well while collecting the responses.

Level

The institute provides dual TVET training in apprenticeship in generally two levels. The first is in the TSLC (Technical School Leaving Certificate) level, in which two

programs, pre-diploma and sub-overseer, are provided. The second is at diploma level, only the graduates of the TSLC level can join for further study. The frequency of respondents according to their level is depicted in Table 6.

Table 6

Distribution of Respondents According to Study Level

Level of study	Frequency	Percent
Pre-Diploma	85	41.67%
Sub-Overseer	62	30.39%
Diploma	57	27.94%
Total	**204**	**100%**

Table 6 exhibits the distribution of respondents based on their studying level. The greatest number of respondents was seen from the pre-diploma level which is 85 (41.67%) out of the total respondents. The second highest number was from sub-overseer with figure 62 (30.39%) and the third was from diploma level with figure 57 (27.94%) out of the total respondents.

Marital Status

The frequency of respondents on their marital status is shown in Table 7.

Table 7

Marital Status Frequency

Marital Status	Frequency	Percent
Single	196	96.08%
Married	8	3.92%
Total	**204**	**100%**

Table 7 shows the data on the marital status of respondents taken in the research. Of the total 204 respondents, 196 (96.8%) were unmarried and only 8 (3.92%) respondents were married. This indicates that most of the apprentices are unmarried at BTI.

The SPSS tool was used to generate statistical data for conducting the normality test. Skewness, Kurtosis, and Kolmogorov-Smirnov were used to analyze the degree of distribution of data. The statistical value of Skewness for all variables was between 0.002 and -0.426, whereas the statistical value of Kurtosis was between 0.042 and -0.478. Here, both values of Skewness and Kurtosis lie between +1 and -1, however, the significant value for all the variables was less than 0.050. Therefore, the data was not normally distributed.

It was found that there was a significant difference among the age groups of apprentices of BTI. There was no significant difference among different age groups except in the family support variable. It was also found that there was no significant difference between male and female apprentices of BTI. There was a significant difference in both family support/guidance and institutional technical efficiency; however, other variables: economic situation, environment in industry, and availability of amenities had no significant difference in trade-wise apprentices at BTI. Significant difference was found in the level of apprentices. The economic situation and availability of amenities had no significant difference among level-wise apprentices.

However, except economic situation and availability of amenities in the institute variables, there was a significant difference

in encouraging factors, family support/ guidance, and environment in industry and institutional technical efficiency. There was no significant difference between single and married apprentices in terms of overall variables. There was no significant difference between single and married apprentices even for each variable considered. Moreovere, the perspective of male and female apprentices was found similar.

Table 8

Summarizing Correlation with Dependent and Independent Variables

Dependent Variable	Independent Variables	Correlation Coefficient(r)	Relationship (%)	Interpretation
Encouraging Factor on completing Training	Family Support	0.38	0.1444	Weak
	Family Economy	0.517	0.267289	Moderate
	Industrial Environment	0.732	0.535824	Strong
	Institutional Efficiency	0.639	0.408321	Moderate
	Amenities Availability	0.709	0.502681	Strong

Discussion and Conclusion

The variable encouraging factor was taken as a dependent variable whereas family support/guidance, family economy, industrial environment, institutional efficiency, and amenities availability were taken as independent variables in the research. The relationship between dependent and independent variables was developed and tested by different statistical analyses. Kolmogorov-Smirnov analysis is used for the data normality test, Mann-Whitney and Kruskal-Wallis analyses for significance concerning demographic factors, and Karl Pearson's Correlation Coefficient analysis is used to ensure the impact of relationship among the variables.

The questionnaire form was developed with five demographical factors of the apprentice and five hypothesis variables with each having four questions. Age range, gender, trade, education level, and marital status were the demographic factors. A total of 204 responses were collected out of 314. There were three age groups (47.1% in 16-20, 50.98% in 21-25, and 1.96% in 26-above), 87.25% were male and 12.75% were female apprentices, four trade groups (34.31% from electrical, 36.76% from mechanical, 22.55% from welding and 6.37% from civil), three levels (41.67% from pre-diploma, 30.39% from sub-overseer and 27.94% from diploma) where 96.08% were single and 3.92% were married as per marital status. The number of responses was considered as the representation of apprentices studying the dual -TVET apprenticeship program.

Discussion of Findings

Is family support/guidance a challenge for an apprentice to complete his/her dual TVET apprenticeship education?

Family support and guidance are significant factors for an apprentice to achieve success which has a proportional relationship to

the objective of the institute. Interaction between the apprentice's family and the institute needs to be more positive. It can improve his/her attendance, persistence, motivation, and results. To get the answer to the first question, the respondents were asked four questions about family support and guidance. The attention of family, sharing difficulties, visits from their family to the institute and industry, and communication with their family were considered in the questionnaire form. To achieve the degree of family support/guidance on their education, significance and correlation analysis were used as the statistical techniques.

The result of the significance analysis indicated that there was no significant difference in gender (male and female) and marital status (single and married); the same case was valid for the sub-groups. However, it was found that there was a significant difference for age group (16-20, 21-25, and 26-above), trade (electrical, mechanical, welding, and civil), and level (pre-diploma, overseer, and diploma). It was found that the sub-groups had different perspectives.

From correlation analysis, the significance and positive association between encouraging factors and family support/guidance was r = 0.38 with Sig. (2-tailed) value= 0.000 (<0.001); a positive influence of family support on the apprentice's encouragement. The developed hypothesis of family support had an impact on the apprentice' encouraging factor, however, the relationship between the encouraging factor and family was weak. In simple words, the apprentice of BTI had support from their family. Family support was not a challenge for the apprentice to study the dual-TVET apprenticeship program at BTI.

Does the poor economic situation of the family affect apprentices to complete their dual -TVET apprenticeship?

Since the critical financial status creates an extra burden for getting good outcomes, the economic situation of the family of apprentices was considered to be tested. Although the apprentices get stipend during their training, the stipend is only an allowance covering their tiffin and travel expenses and it is not sufficient to manage their study expenses. Four questions were asked to know about their family's economic situation. The significance and correlation analysis is applied in the research, as the statistical technique to secure the answer to the related question during in the study.

From the significance analysis, the apprentices had no significant difference in their family's economic situation for age group (16-20, 21-25, and 26-above), gender (male and female), trade (electrical, mechanical, welding, and civil) and level (pre-diploma, overseer and diploma) and marital status (single and married). The case was the same for all demographical factors. They had the same perspectives on the challenges.

The correlation analysis showed that the significance and positive association between encouraging factors and the economic situation of their family was r = 0.517 with Sig. (2-tailed) value= 0.000 (<0.001). This showed a positive influence of their family's economic situation on the apprentices' encouragement. The developed hypothesis of the family's economic situation had an impact on the apprentices' encouraging factor; however, the relationship between

the encouraging factor and the family's economic situation was moderate. In simple words, the apprentice of BTI had normal financial support from their family.

Is the environment of the industry troubling an apprentice to complete his/her dual TVET apprenticeship education?

As the apprentice of BTI spends most of the time in industry during training period, the environment of the industry should be supportive and learning-friendly. The flexible working hours, work pressure, teamwork, health precautions, collaboration, and motivation determine how many difficulties apprentices face. To get answer to the question regarding the situation of the industrial environment, four sub-questions were asked in the questionnaire. In the same way, significance and correlation analysis were used as the statistical technique in the study.

The significance analysis indicated that there was no significant difference for age group (16-20, 21-25, and 26-above), gender (male and female), trade (electrical, mechanical, welding, and civil), and marital status (single and married); the same case was valid for other subgroups. However, it was found that there was a significant difference in the level (pre-diploma, overseer, and diploma).

From correlation analysis, the significance and positive association between encouraging factors and the industrial environment was r = 0.732 with Sig. (2-tailed) = 0.000 (<0.001) which shows a positive influence of the industrial environment on the apprentices' encouragement. The developed hypothesis of the industrial environment had an impact on the apprentices' encouraging factor; however, the relationship between the encouraging factor and the industrial environment was strong. Put it simply, the environment in the industry was not good. Therefore, the environment of industry was found as a challenge before the apprentices to complete the dual -TVET apprenticeship training at BTI.

Has the apprentice not completed his/her dual -TVET apprenticeship education because of less institution's technical efficiency?

The productivity of an institute depends on institutional technical efficiency. It includes the competency of human resources and related physical infrastructures. In the same way, four supportive questions were asked to know the degree of institutional technical efficiency of BTI. The significance and correlation analysis were used in the study as the statistical technique to get the answer to the question.

Likewise, the significance analysis pointed out that there was no noteworthy difference for age group (16-20, 21-25, and 26-above), gender (male and female), and marital status (single and married); the same case was valid for other subgroups. However, it was found that there were noteworthy differences in the trade (electrical, mechanical, welding, and civil) and level (pre-diploma, overseer, and diploma).

The correlation analysis indicated that the significance and positive association between the encouraging factor and institutional technical efficiency of BTI was r = 0.639 with Sig. (2-tailed) = 0.000 (<0.001): a positive influence of the institutional technical

efficiency on the apprentice's encouragement. The developed hypothesis of the institutional technical efficiency had an impact on the apprentices' encouraging factor where the relationship between the encouraging factor and the institutional technical efficiency was moderate. Mentioning simply, the institutional technical efficiency couldn't be enough to encourage the apprentice. Therefore, institutional technical efficiency was considered a moderate challenge for the apprentices to complete their dual -TVET apprenticeship training at BTI.

Is it difficult for the apprentices to complete their dual -TVET apprenticeship education because of the unavailability of amenities in the institute?

The availability of amenities shows the level of an institute and how it is delivering its services. The satisfaction of apprentices depends on the facilities provided by the institute which should meet the requirements as per affiliation-providing organization. Lack of basic amenities creates low motivation for the apprentices to continue their studies. To analyze the data provided by the respondents to get answers to the question, significance and correlation analysis were used as the statistical technique.

From the significance analysis, the apprentices had no significant difference in the amenities available in the institute for age group (16-20, 21-25, and 26-above), gender (male and female), trade (electrical, mechanical, welding, and civil) and level (pre-diploma, overseer and diploma) and marital status (single and married). The perception was the same for all the demographical factors on the availability of amenities in the institute.

From correlation analysis, the significance and positive association between encouraging factors and the industrial environment was r = 0.709 with Sig. (2-tailed) value= 0.000 (<0.001) which shows a positive influence of amenities availability on the apprentices' encouragement. The developed hypothesis of the availability of amenities in the institute had an impact on the apprentices' encouraging factor and its relationship with the encouraging factor was found strong. Put in simple words, the availability of amenities in the institute was not sufficient from the perspective of the apprentices which was found as a hindering factor for the apprentices to complete dual -TVET apprenticeship training at BTI.

Conclusion

The study found that BTI has a good mechanism for providing a dual -TVET apprenticeship program in Nepal. However, BTI is facing a challenge of increasing drop-out of apprentices. Less family guidance, worse financial situation, unfriendly industrial environment, lack of technical efficiency, and fewer amenities available at the institute were the hypothetical reasons for the research. Not all hypotheses were true but mixed findings were found. Different demographical groups had different perspectives on their difficulties. A higher level impact of industrial environment and inefficient availability of facilities, normal level impact of family finance and institutional technical efficiency, and less impact of family support came out on the encouragement for apprentice of BTI.

Moreover, from analyzing the demographic views of apprentices, it was found that

the challenges were different as per age groups among 16-20, 21-25, and 26- above. Similarly, the challenges among different levels of pre-diploma, overseer, and diploma were not found to be of similar perspective. However, the perspective between male and female with regards to their challenging factor was found same. Likewise, the challenges among electrical, mechanical, welding, and civil were found to be similar constraints. From the perspective of apprentices between single and married, similar challenges were found in the study.

The study found a positive strong relationship with the industrial environment and availability of amenities in the institute, a positive moderate relationship with the family economy and institutional technical efficiency, and a positive weak relationship with family support/guidance. These strong, moderate, and weak relationships of the hypotheses can assist in enhancing the apprentice satisfaction and motivation. In summary, the findings declare that the satisfaction of the apprentices is essential for the institute to curb number of drop- outs.

Recommendations

The apprentices not completing their training was found a serious concern for BTI. To minimize the issue, the following recommendations are provided to the institute:

- Frequent orientations could be conducted. Admission interviews could be improved to explore the real interests of the apprentices and to provide information on time.
- Good management and administration always bring a positive impact; however, the study found institutional gap between apprentices and their families' which need to be corrected as soon as possible.
- The environment of the industry was found not good enough; and it was not satisfactory to the apprentices. The dissatisfaction is the result of unfriendly environment- improper tasks, not getting a stipend, etc. A corrective follow-up visit could be organized.
- The technical infrastructures of the institute are aging and outdated. A proper plan of budget could be put in place to update as per the curriculum.
- The study found that the institute was not able to provide some amenities that should be in place as per guidelines regulated by CTEVT. It could be a motivating factor for the apprentices.
- The apprentices were not provided a flexible studying/working hour which is adding them work load; so alternative solution recommended.
- It was found that no concrete policies are implemented to improve the quality. Therefore, it is recommended to develop concrete policies in coordination with CTEVT and the running projects.

Finally, to make the dual -TVET program more relevant, there should be a periodic review of trends on the data of apprentices, and financial data in a way that corrective action can be made to improve the quality of education. Similarly, BTI should learn from the successes and failures of the peer institutes through meaningful interaction with them, and industrial partners as well.

In the case of BTI, cooperation between family and institute can improve the apprentices' attendance, percentage, persistence, and motivation. There should be more positive interactions between the institute and the apprentices' family. Moreover, BTI should focus on marketing in the wake of increasing competitors. The marketing needs to reach out to the local governments from where there are numerous opportunities on TVET. MInnovative approach should be adopted to get recognition in the field of dual -TVET in Nepal.

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