

**TVET Diploma and Higher National Diploma Programmes
(NVQ 5 & 6): *Demand and Supply, Physical and Human
Resources, Success Rates and Limitations, and Way Forward***



NATIONAL EDUCATION COMMISSION

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BANDARANAIKE MEMORIAL INTERNATIONAL CONFERENCE HALL,
BAUDDHALOKA MAWATHA, COLOMBO 07, SRI LANKA

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Preface

The National Education Commission (NEC), established by the National Education Commission Act No. 19 of 1991 is a body corporate with the primary mandate to function as the apex policy formulation body of the education sector, and to engage in policy analysis and research, review the ongoing programme and plans with respect to education and undertake research on issues of importance as a prelude to formulation of national education policy and plans at periodic intervals. Going along with this mandate, the NEC has embarked on series of research studies addressing the some of the current issues faced by the education sector.

This volume deals with the Technical and Vocational Education and Training (TVET) sector which plays a major role in producing a competent labour force at craftsman and middle technical personnel level for driving the socioeconomic development of the country. The TVET is considered as an alternative tertiary education pathway for students leaving the general education system at different stages, and a way of building human capital and promoting youth employability. It offers training courses/programmes leading to qualifications at certificate (NVQ 1-4), diploma and higher diploma (NVQ 5 & 6) and degree (NVQ 7) levels. However, the limited empirical data indicate high dropout rates and low completion rates among students enrolled in these courses/programmes resulting a considerable wastage of precious and scarce educational resources.

Considering the importance of training of middle level of technical personnel at diploma and higher national diploma levels (NVQ 5 & 6) and the reported low success rates, the NEC going along with its mandate has conducted this research study to assess the demand and supply, physical and human resources, success rates and limitations of the diploma and higher national diploma level (NVQ 5 & 6) programmes offered by two leading TVET training institutions, the University Colleges (UCs) of University of Vocational Technology (UoVT) and Colleges of Technology (CoTs) of the Department of Technical Education (DTET), with the view to propose the way forward by making recommendations on suitable interventions to address the identified gaps and shortcomings.

Prof. Harischandra Abeygunawardena

Chairman

National Education Commission

November 2023

Acronyms and Abbreviations

CBA	Competency-Based Assessment
CEO	Chief Executive Director
CGTTI	Ceylon German Technical Training Institute
CoT	College of Technology
DTET	Department of Technical Education and Training
GCE (A/L)	General Certificate of Examination Advanced Level
NAITA	National Apprentice and Industrial Training Authority
NEC	National Education Commission
NIBM	National Institute of Business Management
NVQ	National Vocational Qualification
NVQFSL	National Vocational Qualification Framework of Sri Lanka
NYSC	National Youth Services Council
OCUSL	Ocean University of Sri Lanka
RPL	Recognition of Prior Learning
SLQF	Sri Lanka Qualifications Framework
SoR	Scheme of Recruitment
TVEC	Tertiary and Vocational Education Commission
TVET	Technical and Vocational Education and Training
UC	University College
UNIVOTEC/UoVT	University of Vocational Technology
VTA	Vocational Training Authority

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Executive Summary

This research study focused on middle-level technical training at NVQ 5 and 6 levels leading to Diploma and Higher National Diploma qualifications provided primarily by the Colleges of Technology (CoTs) of the Department of Technical Education and University Colleges (UCs) of the University of Vocational Technology (UoVT). These programmes admit students from both the NVQ and GCE (A/L) streams. Students from both streams have shown gaps in pre-requisite knowledge and skills, particularly in mathematics, ICT, and the English language; hence, a transition / gap-filling programme is offered before they proceed into the core programme. As the functioning of the NVQ 5/6 programmes has not yet been thoroughly investigated, particularly in the light of reported high dropout and low success rates, this study was carried out to examine whether these programmes are achieving the desired outcomes and propose a way forward by making recommendations, if constraints are identified. A questionnaire survey complemented with interviews was used as the primary data collection tool.

Research team made in-person visit covering a sample of 5 UCs and 6 CoTs to administer questionnaires to students and conduct interviews with teachers and higher management. Though the demand for NVQ 5/6 has increased by 5-fold, the intake of students increased marginally, with an admission rate of less than 20% due to limitations of space and resources in training institutions. Though the overall perception of students on both the transition/gap-filling and the core programmes is above average, the NVQ 5 and 6 programmes experience relatively high dropout rates and low success rates in graduating on the first attempt. From the students' viewpoint, financial constraints and learning difficulties are the key reasons for low completion rates. Even though students say they are happy with the transition programme, the low completion rates suggest that the current transition programmes may not meet the expected outcomes, particularly in rectifying the language deficiencies. As regards the operational aspects, the academic staff and the higher management cited issues related to inadequacies of human and physical resources, the competency-based assessment system implemented by TVEC and communication and coordination among the institutions as the major limiting factors and challenges faced by the training institutions.

In conclusion, the results suggest that the implementation of NVQ 5 and 6 study programmes is constrained by a multitude of factors. These include the issues related to the transition or gap-filling programme with respect to its focus, content and duration, competency-based assessment and staff recruitment and retention, and students in relation to meeting their financial needs and overcoming their learning difficulties.

Thus, the way forward is to assess the constraints and issues listed above critically and redress them to overcome the associated implementation issues. Further, considering high drop rates and related resource wastage, the possibility of providing a suitable financial support system to incentivize the students in NVQ 5 and 6 programmes must also be considered. In addition, it indicates the necessity of a better communication process between Technical Colleges and the TVEC with respect to implementation of CBA assessments. Further, the TVEC should consider expanding the assessors' pool by giving wider publicity to recruit professionals in the relevant fields, especially in the regional areas and offering an attractive payment scheme to remunerate them adequately for the professional service expected from them on which the credibility of the whole NVQ system depends.

Keywords: *Technical and Vocational Education and Training (TVET), National Vocational Qualifications (NVQs), Student Dropouts, Transition programme, TVET Diplomas*

Chapter 1: Introduction

The Technical and Vocational Education and Training (TVET) sector plays a major role in producing a competent labour force for driving the socioeconomic development of any country (ADB, 2004; NEC, 2018). Besides that, the TVET sector, while catering to training of middle-level technical cadres, could also provide a solution to reduce unemployment among youth by imparting them with vocational and technical skills for gainful employment (Maurer, 2012). Despite the recognition of the value of technical and vocational education, the TVET sector in many developing countries is yet to be recognised as a part of the mainstream of education, and as a result, the sector is very often underfunded, and the programmes are poorly designed and managed (Kanyenze, 2011). This appears to be true for Sri Lanka as well, and the prevalent criticism directed at the TVET sector has been its inability to produce the human resources needed for the country, in particular, to satisfactorily match the skill requirements of the local and overseas labour markets (ILO, 2015; NEC 2022).

The TVET sector is primarily regulated and guided by the Tertiary and Vocational Education Commission (TVEC), and in its efforts to enhance the quality and relevance of the TVET provisions offered by training institutions, has introduced the National Vocational Qualifications Framework of Sri Lanka (NVQFSL) in 2004 with the aim of bringing uniformity of training and qualifications offered by the myriad of TVET institutions (TVEC, 2009). As shown in Fig. 1, the NVQFSL has been hierarchically structured at seven levels: NVQ Levels 1 to 4 are recognised as certificate-level qualifications, NVQ Levels 5 and 6 are identified respectively as diplomas and higher diplomas, and NVQ Level 7 offers a 3-year bachelor's degree or a 4-year honours degree (in selected fields). The NVQ 7 level qualification – 3-year and 4-year degree programme are equivalent to levels 5 and 6 of the Sri Lanka Qualification Framework (SLQF), respectively (SLQF, 2015). In this arrangement NVQ levels, 1 to 6 are provided by training centres which are maintained by diverse institutions such as the Department of Technical Education and Training (DTET), National Apprentice and Industry Training Authority (NAITA), Vocational Training Authority (VTA), Ceylon German Technical Training Institute (CGTTI), etc., and the NVQ level 5, 6 and 7 training and qualifications are provided by the University of Vocational Technology (UNIVOTEC; subsequently the abbreviation was changed to read as UoVT).

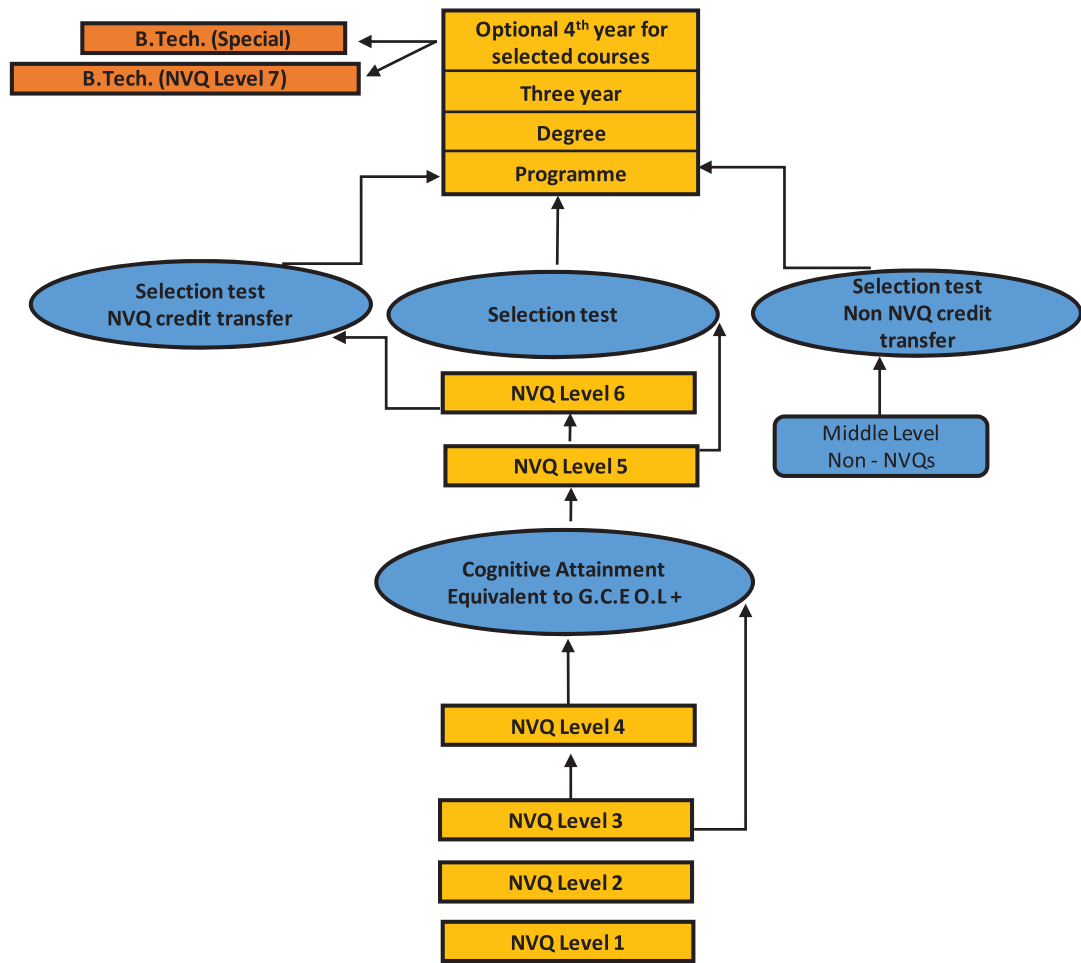


Figure 1: Hierarchical structure of the NVQ framework

Source: Adapted from Tertiary and Vocational Educational Commission, Operational Manual (2021)

Though the TVET sector has expanded qualitatively and quantitatively, the demand for admission, particularly for NVQ 5/6 programmes from the NVQ qualifiers (i.e. from NVQ 3/4 qualifiers) seeking admission has been relatively limited. Consequently, the number of applicants from NVQ pathway to the UoVT became somewhat limited. As a solution to this, since 2014, the UoVT has established University Colleges (UCs) in different parts of the country to attract GCE (A/L) qualifiers, particularly those who have failed to enter higher studies in a State university. Parallel to this initiative, the Colleges of Technologies (CoTs) too have commenced admitting GCE (A/L) qualifiers to NVQ 5/6 diploma programmes. As a result, in both systems, most of the admissions come from the GCE (A/L) pathway, particularly from those who followed the technology stream of education.

However, it was noted that both the NVQ 3 and 4 qualifiers, as well the GCE (A/L) qualifiers, were deficient in certain competencies required to follow the NVQ 5/6 level courses; NVQ 3/4 qualifiers were deficient in theoretical knowledge, particularly in mathematics and

information technology while the students from the GCE (A/L) stream were shown to be deficient in pre-requisite knowledge and practical skills that are imparted by NVQ 3 and 4 level courses. Most students from both streams appeared to be deficient in English language skills (Piyasiri et al. 2013). As a solution to this, the gap-filing or transition programme was introduced commencing in 2014 to both groups. Though this programme has been in operation for well over eight years, no studies have been undertaken to assess the effectiveness of the programmes in addressing the competency gaps identified.

With the opening up of the opportunity to earn a degree-level qualification through the TVET stream upon the establishment of the UoVT, the demand for diploma-level courses has gradually increased (TVEC, 2021). The demand further increased, when the government incorporated NVQ 5 and 6 diploma certificates as the basic qualifications in recruitment schemes applicable to recruitment into middle-level technical categories (Public Administration Circular of 02/2009). Parallel to the increase in demand, the NVQ 5/6 programmes have been diversified to cover newer specialities/fields such as food technology, mechatronics technology, telecommunication technology, etc., besides the traditional fields of engineering technology-related areas. As of today, NVQ Level 5/6 programmes are offered in 85 fields of specialisations (TVEC, 2022). Along with the expansion of fields of specialisations, both the CoTs and UCs have made heavy investments to equip the training centres with required physical and human resources and to modernise the courses (TVEC, 2021).

From the inception, the CoTs offered NVQ diploma training programmes free of charge. However, UCs offered NVQ diploma programmes on a fee-levying basis from the beginning. Subsequently, UCs too have commenced offering the NVQ 5/6 level programmes free of charge. Unfortunately, this welfare measure has resulted in increased dropout rates from NVQ 5/6 programmes offered by UCs and CoTs (Ministry of Skills Development, 2021).

1.1 Significance of the Study

Considering the importance of the TVET sector and particularly the training of middle level of technical personnel at diploma and higher diploma level), and in the light of low completion rate of NVQ 5/6 programmes leading to waste of precious resources, the NEC being the apex body responsible for education policy formulation has decided study the demand and supply, physical and human resources, success rates and limitations with the view to propose the way forward by making recommendations on suitable interventions to address the identified gaps and shortcomings.

Chapter 2: Research Approach

2.1 Objectives

The objectives of the study were to;

- i) Assess the effectiveness of transition/gap-filling programmes offered to NVQ Level 3/4 qualifiers or GCE (A/L) entrants into NVQ 5,
- ii) Ascertain whether NVQ 5/6 diploma programmes are delivered to meet the expected outcomes with respect to student demand and the course completion rates,
- iii) Ascertain the perceptions of the students and lecturers on the availability of required human and physical resources to deliver NVQ 5/6 programmes,
- iv) Identify the shortcomings related to the delivery of NVQ 5/6 programmes, and
- v) Propose the way forward by making recommendations on measures to address the gaps and issues identified.

2.2 Methodology

2.2.1 Research Design

As the study envisaged to collect both qualitative and quantitative data, the mixed research approach was adopted as it allows the collection of both quantitative as well as qualitative data, particularly with regard to the views and perceptions of stakeholders (Brooker & Schaefer, 2015).

2.2.2 Population and Sample

The approximate student population currently registered in NVQ 5/6 programmes with the CoTs and UCs was considered as 7000 students. According to the Morgan Table¹, the required sample size was estimated as 384. The overall population of lecturers, as of the records available at the CoTs and UCs, was estimated as 150 and the study intended to cover at least 50% of the population of lecturers. It was planned to interview the Directors /Chief Executive Officers (CEOs) of all CoTs (9) and UCs (5).

¹ Krejcie, R. V and Morgan, D.W. (1970). Determining sample size for research activities', Educational and psychological measurement, 30(3), 607–610.

2.2.3 Data collection method

A questionnaire survey was used as the primary tool of data collection. Separate questionnaires were used, one for the students and one for the lecturers. CEO/Directors were interviewed by adopting a structured questionnaire format. Data collection was handled by the researchers themselves. The first questionnaire was used to collect data from students on their perception on the transition/bridging programme (foundation/gap-filling programmes), the adequacy of resources for effective implementation of NVQ 5/6 programmes, their satisfaction with the diploma programme followed, and motivation to continue in the programme. Nine items were used to measure perceptions on the foundation programme, eight items were used to measure the attributes of diploma programmes with respect to resource adequacy, students' perceptions on the diploma and the possible reasons for high dropout rates and low completion rates. The second questionnaire consisting of seven items was used to measure teachers' perceptions on resource availability. Both questionnaires included 5-point Likert scale ratings (*i.e.*, 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Cannot say*, 4 = *Agree* and 5 = *Strongly Agree*) to assess the stakeholder views and perceptions. The reliability of the instruments was tested using Cronbach's Alpha method (Cronbach, 1951) and the alpha values were found to be 0.80 and 0.79 for the first and second questionnaires, respectively. Interviews were conducted with 7 CEOs/Directors of training institutions: three Directors/CEOs of University Colleges (50% of the UCs) and with four Directors of Colleges of Technologies (45% of the CoTs). Data on students' enrolments and completion were collected from the Tertiary and Vocational Education Commission (TVEC) and from the respective colleges. In addition to survey data, secondary data and information were collected from Labour Market Information Bulletins published by TVEC (LMI 2019; LMI 2020) and from previous study on the dropouts in technical and vocational training centres in Sri Lanka (SSDP,2021). Further, a focus group discussion was held with key officers of the TVEC which included the Director General, Deputy Director General and the Directors in charge of NVQ, Assessments and Information Systems, in order to get the TVECs perspective on the issues identified by CoTs and UCs.

2.2.4 Data analysis

Initially data were tabulated and summarised using MS-Excel spreadsheet, and descriptive statistics were analysed using the SPSS package. Qualitative data collected through structured interviews were analysed using qualitative content analysis by adopting QDA Miner Data Analysis software.

Chapter 3: Results

The results are presented under the sub-headings of i) demographic profile of student respondents, ii) students' perceptions on transition programmes, iii) students' perceptions on diploma programmes, iv) demand and supply of NVQ programmes, v) dropout rates from NVQ programmes, vi) students completion rate of NVQ 5/6 programmes at the first attempt, vii) students' perceptions for dropping out from the NVQ 5/6 programmes, viii) students' perceptions of resource availability, ix) lecturers' viewpoints on the availability of physical and human resources, x) directors'/CEOs' views and opinions on the functioning of the training system, xi) viewpoint of the high officials of the regulating body, TVEC on Competency-Based Assessments, xii) other remarks made by TVEC officials.

3.1 Demographic profile of student respondents

The survey covered a sample of 884 students, which was equivalent to 12.62 % of the population, and the sample size is considered well over the accepted level. As shown in Table 1, this number includes 388 (44%) from UCs and 496 (56%) from CoTs. Out of that number, 523 (63.8%) were males and 297 (36.2%) were females. Their mean age was found to be 22.41 years (n= 822, SD = 1.62). A larger majority (76.4%) of students were from the direct entry path with GCE (A/L) qualifications compared to a relatively small number (23.6%) from NVQ pathway (i.e. 3/4 qualifiers).

Table 1: Composition of the Student Respondents

	Respondent	Frequency	Percentage (%)
College type	UC	388	44.00
	CoT	496	56.00
Gender	Male	523	63.80
	Female	297	36.20
Entry Qualification Pathway	NVQ 3/4	191	23.6
	G.C.E (A/L)	620	76.4

3.2 Students' perceptions on transition programmes

Students' perceptions on the transition/bridging programme are assessed by six questionnaire items and the results are given in Table 2. Results reveal that the students of both UCs and CoTs have a positive perception on the usefulness of the transition/bridging programme. For all six items, the median and mode are found to be 4 whereas the mean value ranges from 3.73 to 4.29. Hence, from the students' point of view, the transition/bridging programme is a beneficial and effective one which had helped them to overcome their theoretical and skill deficiencies. As shown in Table 2, respondents have stated this programme helps them improve their English, mathematical, and computer skills with mean values of 4.20, 4.09 and 3.83, respectively.

Table 2: Students' Viewpoints on the Transition/Bridging Programme

Item		Likert Scale Ratings			
		No. Respondents	Mean	Median	Mode
1	It helped me to improve my English language skills	878	4.20	4	4
2	It helped me to improve Mathematical skills	866	4.09	4	4
3	It helped me to improve Computer skills	869	3.83	4	4
4	Assessment of the foundation program is useful	845	4.06	4	4
5	I am satisfied with the Foundation programme	844	3.81	4	4
6	It helped me to develop practical skills related to my diploma	863	4.15	4	4

3.3 Students' perceptions on diploma programmes

Students' perceptions on the diploma training programme as assessed by four items of the questionnaire are given in Table 3. As per the observed data given in Table 3, a majority of students indicated that they have benefited from the programme (Mean = 4.29), and are willing to recommend the programme to their peers and others (Mean = 4.11). Further, the respondents consider the time spent on the programmes was not considered a waste (Mean = 2.27). However, when the item is reverse coded it gives a mean of 3.75 with median and mode equal to 4 indicating moderate satisfaction.

Table 3: Students’s Satisfaction on the Overall Programmes

No	Item	Likert Scale rating			
		Respondents	Mean	Median	Mode
1	I benefitted from the programme	865	4.29	4	4
2	The duration of the programme is enough	836	4.01	4	4
3	Time spent for the programme is a waste	854	2.27	2	2
4	Time spent for the programme is a waste (Reverse coded)	854	3.73	4	4
5	I recommend to my friend	863	4.11	4	4

3.4 Demand and supply of NVQ programmes

The demand and enrollment trends as indicated by the number of students applied and the number of students are illustrated in Fig. 2 and the values are based on the data received from 5 UCs and 4 CoTs. As shown in Fig. 2, the demand for the NVQ 5/6 programmes, and the number of students who applied for those 8 institutions has increased considerably from 2148 in 2015 to 12286 in 2020. However, the number admitted has increased only marginally from 1130 in 2015 to 2125 in 2020 indicating the intake capacity of the colleges has not increased over the years.

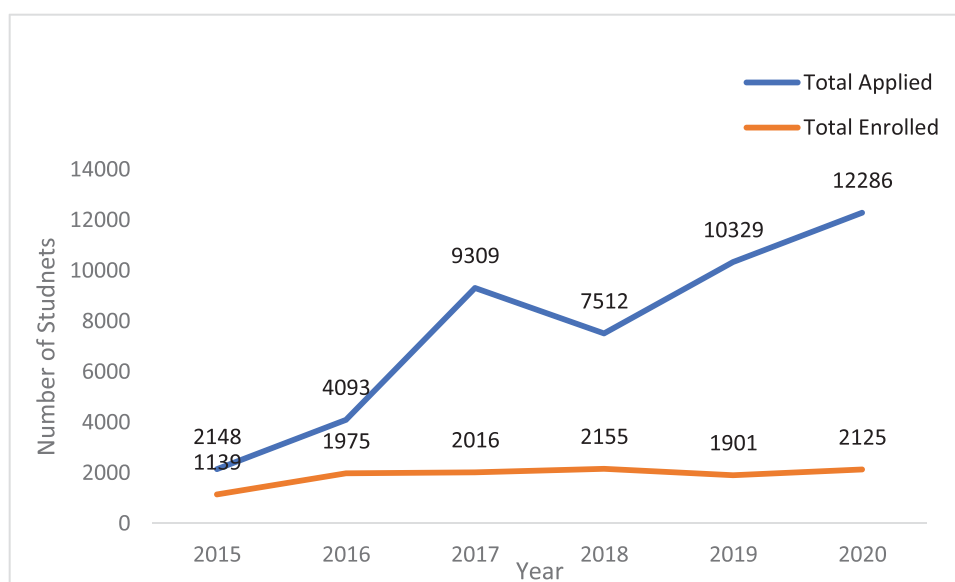


Figure 2: Student Enrolment Statistics for Six Years (2015-2020)

3.5 Dropout rates

The dropout rates of the NVQ programmes were collected from secondary data². As shown in Table 4, the dropout rates of NVQ programmes offered by various TVET training institutions were substantial with an overall value of 30.8%. This data suggest that the lowest rates are occurring in NVQ 1/2/3/4 programmes offered by VTA and NAITA, NYSC, and private training institutions while the higher rates appear to be occurring in NVQ 5/6 programmes offered by UoVT (71.6%), Ocean University (71.5%), NYC (66.85%), NIBM (69.36%) and DTET (44.63%). However, data on dropouts of CoTs were not possible to be obtained during the study period. Hence, it is assumed to be similar to the DTET rate of around 40%.

Table 4: Student Dropout Rate from TVET Study Programmes

Institute	Total Recruitment	Total Completion	Total Dropout	Dropout Rate
DTET	42657	23621	19036	44.63%
VTA	37936	30674	7262	19.14%
NAITA	29989	24974	5015	16.72%
NYSC	22280	17457	4823	21.65%
NYC	10970	3637	7333	66.85%
NIBM	8610	2638	5972	69.36%
CGTTI	1169	492	677	57.91%
UNIVOTEC	1040	301	739	71.06%
Ocean University	116	33	83	71.55%
Private	62484	46516	15968	25.56%
Total	217251	150343	66908	30.80%

Source: Adapted from a Report of 'A study on the dropouts in technical and vocational training centres in Sri Lanka' conducted by the Skills Sector Development Division of the Ministry of Skills Development Employment and Labour Relations (2021)

² Ministry of Skills Development Employment and Labour Relations, Skills Sector Development Division (2021). A study on the dropouts in technical and vocational training centres in Sri Lanka. (Unpublished Report).

3.6 Success rate at the first attempt of the NVQ 5 / 6 Diploma Final Examination

The numbers of students who sat for NVQ 5 and 6 diploma examinations and qualified at their first attempt based on data collected from four CoTs and four UCs are given in Table 5. As shown in Table 5, from the UCs, only 11.2% of students were able to successfully complete the NVQ level 5 final examination on their first attempt. In comparison, 50% of candidates were able to pass the NVQ level 6 final examination on the first attempt. In the case of CoTs, the reported rates were 26.2% and 46.6%, respectively, for NVQ level 5 and NVQ level 6 examinations. This data also shows that the success rate of students who enrolled in the CoTs appears to be higher than that of students enrolled in UCs.

Table 5: Cumulative Data on Students Receiving NVQs in the First Attempt (2016-2019)

Institutions	No. of Students sat for the NVQ final examination (First attempt)		No. of Students received NVQ Certificate (First attempt)	
	NVQ Level 5	NVQ Level 6	NVQ Level 5	NVQ Level 6
University Colleges				
University College of Kuliyaipitiya	822	471	3	68
University College of Jaffna	51	124	49	119
University College of Matara	0*	168	36	151
University College of Anuradhapura	0*	125	10	106
Total	873	888	98	444
Colleges of Technologies				
College of Technology Kandy	570	40	434	40
College of Technology Kurunegala	710	47	No data	No data
College of Technology Ampara	1043	89	136	70
College of Technology Ratnapura	377	75	139	7
Total	2700	251	709	117

*The UC Matara and UC Anuradhapura indicated zero value for the NVQ 5 level as those two institutions did not hold examinations at NVQ level 5 exit, and instead, the students were allowed to continue directly into the NVQ 6 programme.

3.7 Students' Perceptions on high dropout rates of students from NVQ 5/6 Programmes

The students continuing the NVQ 5/6 programmes were asked to state their opinions on why their colleagues left the programme after enrolling. Figure 3 illustrates the significant reasons cited by the students. The largest proportion of students (38%) appeared to have left the programme as they found difficulties in comprehending the course's contents delivered in English. About one-fourth of the student (24%) appeared to have discontinued their studies due to financial problems. Another 22% of the students appeared to have left the courses searching for employment, while 21% appeared to have left the programme to follow alternative educational programmes.

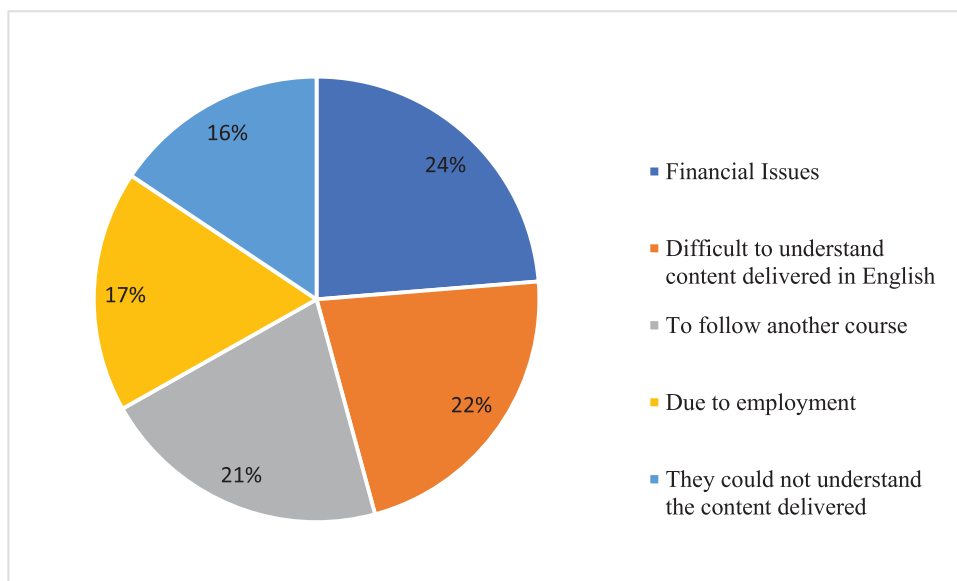


Figure 3 : Major Reasons for Discontinuing Studies

3.8 Students' perceptions of resource availability

Students' responses to eight statements framed in the questionnaire to ascertain the students' perceptions of resource availability are given in Table 6. According to the results, students have a positive perception of the availability of facilities except the facilities for sports and recreational activities which have a lower mean value of 2.53 and value of two (02) for both median and mode. Further, essential resources required to deliver the programme effectively appear to be available in the colleges.

Table 6: Students' Perception of Resource Availability

No	Item	No. of Respondents	Likert scale ratings		
			Mean	Median	Mode
1	Enough teachers are available	862	3.52	4	4
2	Enough classrooms are available	864	3.58	4	4
3	Laboratory staff is there to support practical	790	3.86	4	4
4	Classrooms are comfortable	867	3.62	4	4
5	Classrooms are having Multimedia and modern facilities	869	3.48	4	4
6	Welfare facilities are adequate	826	3.17	4	4
7	Sports facilities are available	861	2.53	2	2
8	Cafeteria facilities adequate	810	3.00	4	4

3.9 Lecturers' viewpoints on the availability of physical and training resources

Lecturers' responses to six statements framed in the questionnaire to ascertain their perceptions on resource availability are given in Table 7. Lecturers provided mixed viewpoints on the availability of resources except the library resources. The mean value for library facilities stood at the highest (3.60), whereas the adequacy of classrooms recorded the lowest mean value (2.95).

Table 7: Lecturers' Viewpoints on Physical and Training Resources

No	Item	Likert scale ratings			
		No. Respondents	Mean	Median	Mode
1	We have an adequate number of classrooms	76	2.86	3	2
2	All classrooms have enough space	76	3.30	4	4
3	All classrooms have adequate Teaching aids (Multimedia projectors, etc.)	76	2.95	3	4
4	Library Facilities available are adequate	77	3.60	4	4
5	Laboratories are fully equipped	74	3.09	3	4
6	Workshops are equipped to impart the necessary skills to students	75	3.36	4	4

3.10 Directors'/Principals' views and opinions on the functioning of the NVQ 5/6 training delivery system

Interviews were conducted with 03 out of 06 Directors of UCs (50%) and 04 out of 09 principals of CoTs (44%). The primary concerns cited by the higher management of both the UCs and CoTs were;

- i) Lack of permanent academic staff
- ii) Long delays in staff recruitment
- iii) Delays in curricula updating
- iv) A competency-based assessment conducted by the TVEC using independent assessors.

According to the study results, these deficiencies hinder the performance of CoTs and UCs. The major concerns expressed were;

- i) Deficiencies of the Scheme of Recruitment (SoR) of academic staff and higher management of UCs (i.e. Director/CEO)
- ii) Lack of industry exposure of lecturers and absence of an institutional mechanism to provide industry exposure to lecturers while in service,
- iii) Poor coordination when dealing with the TVEC and the Ministry
- iv) Insufficient cadre provisions for both the academic and support staff categories
- v) Heavy dependence on visiting lecturers, and
- vi) Non-synchronization of academic activities within and among UCs and COTs

3.11 Views of the TVEC Officials on Competency-Based Assessments

The Competency Based Assessments (CBA) conducted by TVEC for awarding NVQ 5/6 certification have been saddled with many issues, particularly the long delays occurring in the assessment process. When inquired on this issue from the TVEC, the officers gave a host of reasons for the apparent delays: one of the primary reasons for the delay is the shortage of available assessors as most of them are concentrated in the Western province, leading to a limited availability experienced assessors across the country; another reason for the delay is the lack of assessors' familiarity in adopting the evidence-based CBA system, which is challenging for many assessors who have been practicing paper-based assessment, which relies on administering question papers and practical tests. Although training is given for those selected to perform as assessors for CBA, it takes some time for them to adapt to CBA fully; another reason is the delay in submitting students' details by colleges that has contributed to the backlog of assessments, causing further delays in the process; lastly, lack of experienced personnel who are willing to work under lower payments has affected the availability of qualified assessors, making it challenging to find suitable candidates to be trained and commissioned as assessors. In addition, according to TVEC, student details provided by the institutions contain many errors, causing further delays in issuing certificates on time. Therefore, addressing these issues is crucial to streamlining the CBA process and expediting the issuance of NVQ 5/6 certificates.

3.12 Other remarks made by TVEC officials on NVQ 5/6 delivery system

Officers of the TVEC gave several important remarks regarding NVQ levels 5/6 training delivery system, and on the overall vocational education landscape. As highlighted by them, most NVQ Level 3 and 4 programmes conduct pre-assessments to prepare students for assessment and minimise failure rates. However, in the NVQ 5 & 6 programmes, no such pre-assessments are conducted. According to them, this may also be a contributing factor for high failure rates. The officials also commented on shortcomings in teaching staff emphasising the need for well-experienced lecturers. As emphasized, by them, the practical training delivered by lecturers with less industrial exposure may not create an effective learning environment for trainees.

Further, they stated as a strategy to increase student admissions into NVQ 5 and 6 courses and optimally utilise available resources, COTs and UCs should consider offering the programme in dual modes; full time and part-time basis. Currently, COTs and UCs offer the programme only through full-time mode, conducted during weekdays, making it difficult for those who possess NVQ 3 or 4 qualifications and employed to leave their jobs for a full-time

programme. Part-time mode on the other hand may allow prospective trainees who are already employed and possess NVQ 3 or 4 qualifications to enrol and learn, on a part-time programme, offered during weekends. Thus, the officers emphasized the need for considering labour market demand when formulating new courses and rationalising existing ones, ensuring that the training programmes/courses align with the needs of industries, employers and employees.

Moreover, they highlighted the need for streamlining the review and approval process for granting approval for the commencement of NVQ 5/6 diploma programmes by TVET training centres other than those of Colleges of Technology (CoTs) and University Colleges (UCs). Many TVET centres have already implementing diploma level programmes, and a streamlined approval process for NVQ 5/6 programmes, could facilitate the expansion of full complement of vocational and technical education programmes (from certificate to diploma level programmes) throughout the existing TVET centre network located across the country.

Chapter 4: Discussion, Conclusions and Way Forward

The results of the study show that the demand for the NVQ 5/6 programmes, as demonstrated by the number of applicants annually, has increased almost by five-fold over the past few years. Yet the number of students admitted annually has increased only by two-fold; thus, the admission rate into NVQ 5/6 programmes remains below 20%. This low admission rate appears to be due to the lack of space and limited training capacity of CoTs and UCs due to their physical and human resources limitations and resorting to single mode, full-time delivery.

Though the demand for admission is high, the NVQ 5/6 programmes offered by CoTs and UCs appear to experience substantial dropout rates. Reasons for the students to leave the programmes at different stages were multifold. Financial constraints faced by the trainees were the leading factor identified that contributed to student dropouts. Many of them discontinued the courses in search of employment for want of an income. Although the programmes are offered on a non-fee levying basis, the need for money to look after themselves or their families was the reason why many left the programme in search of employment. The second most common reason mentioned by students was difficulties in comprehending the content of the course, which was delivered in English despite the provision of the transition/ bridging programme offered at the beginning of the study programmes which focused on addressing language deficiencies.

The success rate of graduating from NVQ 5/6 programmes as determined by the number graduating at the first attempt of a given cohort of student intake appears to be low. This phenomenon was more apparent at the NVQ level 5 exit programmes than at the NVQ level 6 exit programmes. It seems that one of the reasons for the low success rate may be language difficulties. Another reason highlighted by the higher management is the issues and problems relating to the competency-based assessments conducted by the external examiners employed by the TVEC.

Though the NVQ students had positive perceptions of the transition / gap-filling programme, it appears that this programme has not adequately resolved the students' language deficiency as expected. This finding corroborates closely with the report by Manike (2013), which reported high dropout rates and stated that *“as high as 78% of NVQ level 5 students mentioned subjects taught in English as challenging to understand”*. Therefore, the transition programme, which was meant to address the competency gaps of new entrants into the NVQ 5/6 programmes, does not appear to have successfully addressed the language deficiencies of students. Therefore, there is a need for reassessment of the programme with respect to their focus, contents, delivery modality and duration. It is also obvious that

offering a short programme, such as a transition programme, may not address students' language deficiencies adequately. Hence a much longer programme, offered throughout the course, might be an option to consider.

According to the students' viewpoints, the UCs and CoTs are reasonably equipped with physical and training resources for the conduct of the programmes except for sports facilities and classroom space. Overall, the students have a positive perception of the NVQ 5/6 diploma programmes that they follow. Further, they consider the time spent on the programme was productive and rewarding. They also indicate their willingness to recommend the NVQ 5/6 programme to their contemporaries and friends. Although students perceive resource availability positively, the lecturers highlighted the inadequacy of human and physical resources required to deliver programmes effectively. Hence, they stressed the need to increase staff cadres and upgrade training facilities.

Higher management of the colleges has highlighted many factors that negatively impact performance of their training establishments. Among those limiting factors, the competency-based assessments (CBA) conducted by the TVEC employing independent assessors was identified as one of the main hindering factors and a reason for high failure rates. Further, the assessment process and the accuracy and validity of assessments, including the suitability of the assessors for the tasks were also questioned. Moreover, there have been recurrent delays in CBA process leading to delays in NVQ 5/6 certification. As highlighted by the TVEC officers as well as by the higher management and academic staff of training colleges, a multitude of factors appear to contribute to these delays; such as shortage of assessors, incomplete and inaccurate student details provided by training providers, challenges faced by the TVEC in conducting CBA system due to shortage of experienced personnel to function as independent assessors with low payments and inadequate familiarity and expertise in adopting CBA tools by the assessors, and shortage of subject matter and industrial experts at training centre level. To overcome at least a few limitations, the TVEC has introduced an online batch entry system to expedite this process and increase the accuracy of the information provided by the Colleges. Further, TVEC has taken steps to conduct assessment consistency workshops for the assessors to create greater awareness on the application of CBA tools ensure they do the assessments in conformity with CBA principles. Moreover, some have questioned the validity of adopting two different schemes of requirement (SoRs) for recruiting teaching staff for UCs and COTs, even though both institutions deliver the same NVQ 5 & 6 programmes.

Conclusion: Results of the study suggest that the implementation of NVQ 5/6 study programmes is constrained by a multitude of factors. These includes the issues related to, i) transition or gap-filling programme with respect to focus, content and duration, ii)

competency-based assessment scheme, iii) staff recruitment process, and iv) students with respect to the difficulties they encountered in following the academic programme delivered in English medium and in meeting their living costs.

Way Forward: It is imperative that the way forward to maximize the return on investment on this important middle-level technical training programmes is to assess the constraints/issues highlighted by this study critically and redress them to overcome the associated implementation issues. Further, considering high drop rates and related resource wastage, the possibility of providing a suitable financial support system to incentivize the students in NVQ 5/6 programmes must also be considered. In addition, it indicates the necessity of a better communication process between Colleges and the TVEC when it comes to the organization of CBA assessments. In addition, the TVEC should consider expanding the assessors' pool by giving wider publicity to recruit professionals in the relevant fields, especially in the regional areas and offering an attractive payment scheme to remunerate them adequately for the professional service expected from them on which the credibility of the whole NVQ system depends.

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