

# Relationship Between The Importance of Technical and Vocational Education and Training (TVET) Programmes and its Contributions towards Sustainability of Society's Development among Kuala Lumpur Technical Secondary Students

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## Abstract

In the context of rapid technological change and the pressing need for sustainable development, the role of Technical and Vocational Education and Training (TVET) has gained increasing importance. However, the specific contributions of TVET programs to the sustainability of societal development, particularly among technical secondary students in Kuala Lumpur, remain underexplored. This study explores the relationship between the importance of Technical and Vocational Education and Training (TVET) programs and their contributions to the sustainability of society's development among secondary students in Kuala Lumpur, Malaysia. The objectives include assessing the importance and contributions of TVET for technical secondary students, determining the level of sustainability in TVET, and establishing the relationship between the importance of TVET programs and their contributions to societal development. This quantitative survey involved 105 students from Sekolah Menengah Teknik Kuala Lumpur. The instrument was adapted from (Igberaharha, 2021; Mahaputra, 2017; Hamdan et al., 2020). The study reveals a statistically significant correlation with the acceptance of perceptions, as the p-value is less than 0.001. In addition, the coefficient associated with this correlation is 0.532, indicating that the observed relationship has a moderate positive effect size. The findings underscore the importance of understanding and positively influencing students' perceptions to enhance the effectiveness and impact of TVET programs in fostering sustainable societal development.

**Keywords:** Importance, TVET Programmes, Sustainability, Society Development, Technical Students, TVET Contributions

### **Introduction**

The significance of technical and vocational education and training (TVET) is continuously rising in governmental development objectives, global education discussions, and government priorities (Marope et al., 2015). TVET is also regarded as being significant in the strategic and operational priorities of the G20, the OECD, and international organizations including the International Labor Organization (ILO), UNESCO, ASEAN, and SEAMEO. However, TVET systems require ongoing reform and revitalization if they are to fully achieve their potential to influence development. Technical and vocational education and training (TVET) in Malaysia is centered on industry practices and job opportunities. The ministry claims that TVET programs were created in response to industry requests and to promote economic growth in tandem with technical innovation, globalization, the knowledge-based economy, and cross-border labor mobility (Malaysia, 2017). TVET education is essential for producing a skilled workforce, which is necessary for Malaysia to reach its aim of being a developed country. Secondary school teaching and learning (T&L) in technical school has changed over time. Students must select one of three majors: social sciences, technical and vocational education, or science (TVET). Furthermore, the primary goal of the technical school is to foster the development of professionals in the field of engineering, as well as other courses within the technical field. The demand for TVET has been rising over the years, primarily because, in contrast to other streams that depend on job vacancies in the government, private sector, corporate sector, or industries, the TVET stream has helped students become more independent in terms of finding employment (Abd Hamid et al., 2023). Because they possess all the abilities and skills in a variety of sectors that university graduates might not, TVET graduates are in high demand. Consequently, Technical and Vocational Education and Training (TVET) provides opportunities for individuals to get real-world experience and acquire the necessary skills for the workforce or autonomous work (Mahaputra, 2017).

(Paryono, 2017) defines sustainable development as development that satisfies the demands of the present without jeopardizing future generations' ability to satisfy their own needs. Together with actively supporting sustainable development, Malaysia is also implementing sustainable development project. Higher education establishments have as one of their goals the pursuit of sustainable education.

### **Problem Statement**

Technical and vocational education (TVET) policies and programs are developed and implemented in several nations. As global agendas and goals set for different time periods, such as EFA, MDGs, SDGs, etc. Despite global and country-specific efforts, many countries have not achieved sustainable vocational training programs. However, few nations such as Germany, Switzerland, Australia, South Korea, Singapore, and other developed countries have been able to establish sustainable vocational training programs and have contributed to sustainable development (Shayan et al., 2022). Looking at the situation in developing nations, there are numerous obstacles to the sustainable development of vocational training programs in technical schools. Listed below are the 3 major obstacles.

1. TVET of Excellent Standard for Sustainable Development

The programs we offer are of very low quality due to a lack of resources and a low priority for the TVET sector, such as a lack of trained teachers, well-equipped labs and workshops, and suitable training materials (Paryono, 2015). Similarly, technical students face challenges in their learning environment, including inadequate occupational health and safety measures, inadequate working procedure norms, and limited opportunities to develop practical skills. Additionally, a cultural barrier exists, with the majority of students coming from a poor economic background. Despite these obstacles, many countries have implemented successful programs that address these issues, enabling low-income populations to enter the workforce. These programs not only strengthen the local economy but also encourage new forms of participation. The lessons learned emphasize the importance of a social focus in Technical and Vocational Education and Training (TVET) programs in developing countries, challenging the current trend that often neglects this perspective.

## 2. Equilibrium TVET program supply and demand

The skills offered by TVET institutes, and the skills needed by businesses still differ greatly in developing nations. The absence of a professional corporate culture, the inability of the coordination between supply and demand sides and the scarcity of resources for market research are the reasons behind it (Yeap et al., 2021). Consequently, TVET graduates often face unemployment or struggle to find meaningful employment. In this context, TVET appears to be more connected to practical activities, sometimes driven by the necessity for survival, and aligned with what is feasible within their specific environments, rather than solely aiming to meet the demands of a formal job market or adhere strictly to the requirements of technological advancements dictated by modernity.

## 3. A preference for academic streams over technical courses.

Many people think that choosing Technical and Vocational Education and Training (TVET) is not as prestigious as going for academic studies. Studying in TVET is seen as less respectable than studying in the academic stream (Muhd Khaizer et al., 2020). There are a few reasons for this. Firstly, society often sees traditional academic paths, like going to science stream, as more prestigious and respected. This belief can make people think that technical and vocational education is not as important or not as challenging academically. Secondly, cultural attitudes often focus on academic success measured by grades and tests, making people believe that academic courses are naturally more prestigious. This perspective may overlook the practical skills and hands-on knowledge gained through TVET programs (Bakar, 2019). Moreover, there might be a lack of awareness about the many career opportunities available through technical education. The emphasis on prestigious professions linked to academic paths, such as medicine or law, can overshadow the equally important roles fulfilled by skilled professionals in technical fields.

### **Research Objective**

In general, the following three research objective were put forth:

1. To determine the importance of TVET among technical secondary students.

2. To determine the level of TVET sustainability among technical secondary students.
3. To determine the relationship between the importance with sustainability TVET programmes among technical secondary students.

### **Literature Review**

#### **a) Importance of technical and vocational education and training (TVET) programme**

Technical and vocational education is one of the educational options available in Malaysia nowadays. It was put in place to give possibilities for individuals with a proclivity for science and technology education to address the industry's workforce demands both locally and internationally. Technical education is intended to prepare students who are interested in the technical field at the upper secondary level to continue their studies at a higher level in the technical field, whereas vocational education is intended to produce students who are interested in the vocational field at the upper secondary level. Specialized fields are provided to students in order for them to obtain employment as skilled and semi-skilled workers (AbuBakar et al., 2011). Technical education has been realized via the development and availability of several relevant programs. This kind of instruction has also been applied at the postsecondary and secondary schools. The programs offered aim to prepare students for jobs in skilled and semi-skilled labor in the future.

While academic school dropouts can benefit from technical and vocational education as well, they also have a great chance of becoming highly skilled persons who can contribute to the national economy. Malaysia's economy has grown at a rising rate, particularly for those who are skilled and semi-skilled (Sabri, 2012). In terms of the availability of skilled labor and the capacity to assume leadership roles, this is undoubtedly presenting serious problems to the State education system, particularly for technical and vocational education. The workforce required for the administration of an industry-based organization must be competent, professional, and open-minded in order to examine and process information and knowledge and act swiftly on it. Since that high technology will be the foundation of future industrial operations, the government and private sectors participating in technical and vocational education must carefully and thoroughly prepare in order to develop a good education system that can fulfill present demands (Sabri, 2012).

In conclusion, technical and vocational education in Malaysia plays a vital role in addressing the country's workforce needs, providing individuals with opportunities to acquire relevant skills and contribute to the national economy. However, efforts must be made to enhance the quality and relevance of programs to meet the evolving demands of industries and ensure that graduates are well-prepared for the challenges of the modern workforce. Collaboration between stakeholders is essential in achieving this goal and ensuring the continued success of technical and vocational education in Malaysia.

#### **b) TVET's Sustainability towards Society Development**

The goal of Technical and Vocational Education and Training (TVET) is to provide students with the information and skills necessary to work in a particular profession or occupation. Some regard this type of education as an alternative to traditional academic education for

those who want to begin working as soon as they graduate from college. TVET may contribute to economic growth and development by equipping workers with the skills they need. People are more productive and help a nation's economy thrive overall when they have the knowledge and training needed to carry out a particular task. Furthermore, by equipping people with the skills necessary to obtain jobs in their chosen fields, TVET may contribute to the reduction of unemployment and underemployment (Rupert Maclean et al., 2013).

TVET may promote social and economic inclusion, which can aid in sustainable development. TVET may help end poverty and raise the standard of living for those who might not have been able to find employment by giving them the skills they need to enter the workforce. Additionally, by giving people the knowledge and training required to work in environmentally friendly industries and technologies, TVET may contribute to the development of a green economy (Rupert Maclean et al., 2013). By fostering environmentally conscious behavior and green skills, technical and vocational education, and training (TVET) may support sustainable development in a number of ways (Al-Nuaimi & Al-Ghamdi, 2022). Some examples include according to (Ogur, 2023):

1. Students may learn about sustainable technologies and practices in domains including sustainable agriculture, eco-friendly building, and renewable energy through TVET programmes. As a result, a workforce with the abilities and know-how to support the shift to a more sustainable economy may be produced.
2. TVET programs may also emphasize teaching students about environmental preservation and the need of safeguarding natural resources. This can encourage students to adopt eco-friendly practices in both their personal and professional lives and help raise awareness of the importance of sustainability.
3. Through practical, hands-on training, TVET programs can help students acquire the knowledge and skills required to work in environmentally conscious sectors or start their own environmentally conscious businesses. This might hasten the growth of the green economy and facilitate the transition to a more sustainable society.

In conclusion, Technical and Vocational Education and Training (TVET) represents a valuable tool for promoting economic development, social inclusion, and environmental sustainability. By equipping individuals with the skills and knowledge needed to succeed in the workforce while fostering environmentally conscious behavior, TVET can play a pivotal role in advancing sustainable development goals and building a more equitable and resilient society. Collaboration between policymakers, educational institutions, and industry stakeholders is essential to harnessing the full potential of TVET in driving positive change.

### **c) Contributions of technical and vocational education and training (TVET)**

Caillods (1994) claims that Technical and Vocational Education and Training (TVET) generates human resources with the work skills needed in the modern economy, as well as technical and soft skills. TVET is a vital tool that raises the productivity, mobility, and adaptability of the workforce while also enhancing its quality. TVET can therefore help to improve an organization's competitiveness in the increasingly globalized world. Since TVET orients itself towards the workplace and stresses the development of employable skills in

its curriculum, it is well-positioned to train the competent and entrepreneurial workforce that some countries require to produce wealth and escape poverty (Ababa, n.d.).

TVET has to be supported in both secondary and post-secondary education settings since it is crucial to a country's growth. The national human-capital development policy should place a strong emphasis on TVET as it is essential for fostering economic growth and giving people access to the workforce. TVET should no longer be seen as having second-class status. This may be achieved by implementing measures like articulation agreements with post-secondary institutions and properly recognizing TVET degrees.

In conclusion, TVET is a vital component of human capital development, essential for fostering economic growth, promoting workforce participation, and enhancing organizational competitiveness. By investing in and supporting TVET initiatives, countries can unlock the potential of their workforce and pave the way for sustainable development and prosperity.

**Research**

**Methodology**

**Research Design**

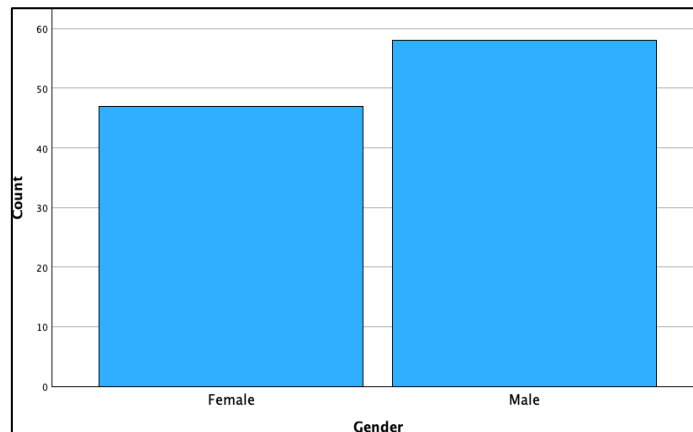
This descriptive study involved data collection through a questionnaire distributed by Google form to the 105 students from Sekolah Menengah Teknik Kuala Lumpur that selected. Stratified Random Sampling is utilized in research to ensure adequate representation of diverse subgroups or categories within a population in the sample (Koyuncu & Kadilar, 2009). Hence, Stratified Random Sampling has been used to ensure representation from different segments of the population, and the Krejcie and Morgan table to determine the appropriate sample size for each stratum, resulting in a total sample size of 105 students out of a population of 145. The students involved in this study are from the field of Commerce, Mechanical Engineering, Civil Engineering and Electrical Engineering.

We adapted the questionnaire from a previous the study of (Igberaharha, 2021; Mahaputra, 2017; Hamdan et al., 2020). The questionnaire consists of 4 parts: Part A captures the demographic information of the respondents; Part B, the emphasis shifts to evaluating the importance of TVET programmes in Technical School; and Part C focuses on gauging respondents' perceptions of TVET's sustainability towards societal development. Statistical Package for Social Science Version 26.0 For Windows was used to collect and analyze data and information (SPSS).

**Research Finding**

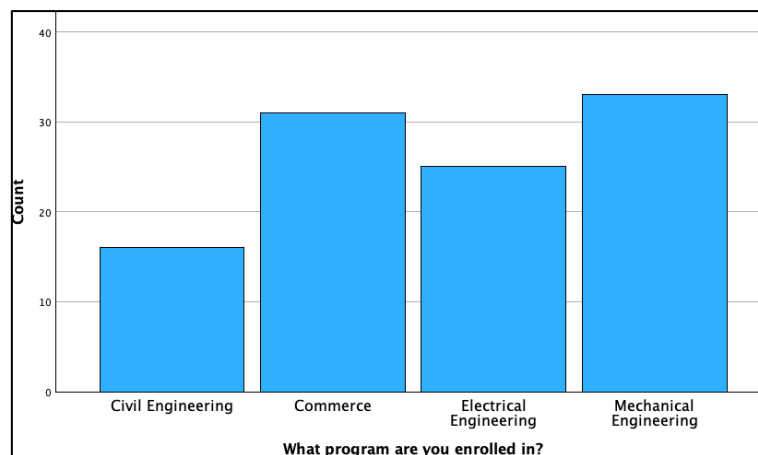
**Section A: Demographic descriptive analysis**

<b>Gender</b>					
		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
<b>Valid</b>	<b>Female</b>	<b>47</b>	<b>44.8</b>	<b>44.8</b>	<b>44.8</b>
	<b>Male</b>	<b>58</b>	<b>55.2</b>	<b>55.2</b>	<b>100.0</b>
	<b>Total</b>	<b>105</b>	<b>100.0</b>	<b>100.0</b>	



The data indicates a slight majority of males in the sample, comprising 55.2%, compared to females at 44.8%.

Distribution of course enrolment					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Civil Engineering	16	15.2	15.2	15.2
	Commerce	31	29.5	29.5	44.8
	Electrical Engineering	25	23.8	23.8	68.6
	Mechanical Engineering	33	31.4	31.4	100.0
	Total	105	100.0	100.0	



Civil Engineering is represented by 16 individuals, constituting 15.2% of the total sample. Commerce emerges as the second-largest program, with 31 individuals, accounting for 29.5% of the total respondents. Electrical Engineering follows closely with 25 individuals, representing 23.8% of the sample. Mechanical Engineering boasts the largest cohort in the dataset, with 33 individuals, making up 31.4% of the total.

**Section B: The Importance of TVET among TVET Technical Secondary Students**

		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
1	TVET can help reduce unemployment among graduates in technical school by preparing them for competitive industries.	8 (7.6%)	12 (11.4%)	31 (29.5%)	54 (51.4%)
2	TVET enhance effective participation in the world of work.	5 (4.8%)	7 (6.7%)	44 (41.9%)	49 (46.7%)
3	TVET has a great contribution in making my country middle level economy.	7 (6.7%)	6 (5.7%)	41 (39.0%)	51 (48.6%)
4	The availability of a skill and competence work force is driving engine of growth creation	5 (4.8%)	7 (6.7%)	40 (38.1%)	53 (50.5%)
5	TVET has the potential to boost technological progress for the development of the nation.	5 (4.8%)	5 (4.8%)	41 (39.0%)	54 (51.4%)
6	The skills taught in TVET are not relevant to the current needs of industries.	18 (17.1%)	23 (21.9%)	31 (29.5%)	33 (17.1%)
7	People are aware of the courses offered in TVET	12 (11.4%)	17 (16.2%)	39 (37.1%)	37 (35.2%)
8	Technical students who complete TVET programs face difficulties finding suitable employment.	17 (16.2%)	26 (24.8%)	33 (31.4%)	29 (27.6%)
9	The support and resources provided by TVET institutions are insufficient for technical students.	17 (16.2%)	20 (19.0%)	26 (24.8%)	42 (40.0%)
10	Achievement in TVET in my country is recognized internationally	11 (10.5%)	13 (12.4%)	45 (42.9%)	36 (34.3%)

Based on the descriptive analysis of Section B, TVET importance for technical students, it was found that the significant contribution of TVET for secondary students in Malaysia is TVET can help reduce unemployment among graduates in technical school by preparing them for competitive industries with 54 respondents (51.4%) strongly agree with this construct. Similarly, another 54 respondents equally agree that TVET has the potential to boost technological progress for the development of the nation. Therefore, it can be concluded that these two are the most significant contribution of TVET.



## Section C: Sustainability in TVET Level among Students at TVET Technical Secondary School

		STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
1	TVET has a negligible impact on societal development.	9 (8.6%)	18 (17.1%)	35 (33.3%)	43 (41.0%)
2	TVET can play a key role in societal stability of the country.	6 (5.7%)	5 (4.8%)	47 (44.8%)	47 (44.8%)
3	Unemployment is a heavy burden for societal in the term of growth and competitiveness	9 (8.6%)	9 (8.6%)	42 (40.0%)	45 (42.9%)
4	TVET driven by market demanded is more effective in enhancing employment and income for disadvantage group.	7 (6.7%)	12 (11.4%)	42 (40.0%)	44 (41.9%)
5	Most TVET graduate students have the opportunity for relevant employment.	5 (4.8%)	11 (10.5%)	40 (38.1%)	49 (46.7%)
6	TVET helps the economy grow and reduces poverty by getting people ready for jobs.	5 (4.8%)	9 (8.6%)	43 (41.0%)	48 (45.7%)
7	TVET programs do not align with the current and future needs of industries in my community.	16 (15.2%)	29 (27.6%)	27 (25.7%)	33 (31.4%)
8	The general public is unaware of the importance and benefits of TVET in societal development.	9 (8.6%)	15 (14.3%)	44 (41.9%)	37 (35.2%)
9	TVET does not provide equal opportunities for people from diverse backgrounds, including gender, ethnicity, and socioeconomic status.	19 (18.1%)	23 (21.9%)	27 (25.7%)	36 (34.3%)

Based on the descriptive analysis of Section C, level of sustainability in TVET among students at secondary level in Malaysia is overall high. Most respondents strongly agree that most TVET graduate students have the opportunity for relevant employment with 49 respondents (46.7%) agree with the statement. It shows that the TVET graduates have a sustainable future in Malaysia.

**Analysis: Relationship Between the Importance and Students' Perceptions of the Sustainability of TVET Programs**

Table 6

*The correlation between students' perceptions of the importance and the sustainability of TVET programs society's*

<b>Correlations</b>		<i>Importance</i>	<i>Sustainability</i>
<i>Perception</i>	<i>Pearson Correlation</i>	1	.532**
	<i>Sig. (2-tailed)</i>		<.001
	<i>N</i>	105	105
<i>Contributions</i>	<i>Pearson Correlation</i>	.642**	.649**
	<i>Sig. (2-tailed)</i>	<.001	<.001
	<i>N</i>	105	105

Correlation is significant at the 0.01 level (2-tailed).

The Pearson correlation value above can be interpreted using the information in table below.

Table 7

*The Pearson correlation value interpretation*

<b>Coefficient Interval</b>	<b>Interpretation</b>
0.90 to 1.00 (-0.90 to -1.00)	Very high positive (negative) correlation
0.70 to 0.90 (-0.70 to -0.90)	High positive (negative) correlation
0.50 to 0.70 (-0.50 to -0.70)	Moderate (negative) positive correlation
0.30 to 0.50 (-0.30 to -0.50)	Low positive (negative) correlation
0.00 to 0.30	Negligible correlation

Table 6 provides correlation coefficients between two key variables: the perceived importance and contributions of Technical and Vocational Education and Training (TVET) programmes, and their association with sustainability, as perceived by Kuala Lumpur technical secondary students. In the first row, the Pearson correlation coefficient between the perception of the importance of TVET programmes and sustainability stands at 0.532, indicating a moderately positive relationship. This value suggests that students who perceive TVET programmes as important are more likely to view them as contributing to sustainability. The associated significance level (Sig.) of less than 0.001 underscores the statistical robustness of this relationship. The sample size (N) for this analysis is 105 students, providing a substantial basis for inference.

In the second row, the Pearson correlation coefficient between the perception of contributions of TVET programmes and sustainability is notably higher at 0.649, suggesting a stronger positive relationship. This implies that students who perceive TVET programmes as making significant contributions to societal development also tend to see them as promoting sustainability. Like the previous correlation, the associated significance level is less than 0.001, indicating a highly significant relationship. Again, the sample size for this analysis

remains at 105 students, ensuring a reliable basis for interpretation. Overall, these correlations underscore the interconnectedness between the perceived importance and contributions of TVET programmes and their perceived impact on sustainability among Kuala Lumpur technical secondary students, emphasizing the holistic role of TVET in fostering sustainable societal development.

### **Discussion**

From the findings studied in this study, the discussion highlights two key properties: importance and sustainability. Firstly, the analysis reveals a statistically relevant correlation involving students' perceptions and the contributions to societal development, with a p-value of less than 0.001. Moreover, the coefficient of 0.642 suggests a moderate positive effect size. In simpler terms, there is a moderate association between how students perceive the importance of TVET programs and the actual contributions of these programs to societal sustainability. Secondly, the examination of sustainability indicates a statistically significant correlation with the acceptance of perceptions, with a p-value less than 0.001. The associated coefficient of 0.532 indicates a moderate positive effect size, suggesting a moderate association between students' perceptions and the sustainability of societal development. In conclusion, both perception and sustainability, as independent variables in this study, are found to be highly associated with the dependent variable. This implies that students' views on the importance of TVET programs have a meaningful correlation with the actual contributions of these programs to the sustainability of society's development. The findings underscore the importance of understanding and positively influencing students' perceptions to enhance the effectiveness and impact of TVET programs in fostering sustainable societal development.

### **Conclusion**

This research introduces a novel framework for understanding the multifaceted relationship between TVET programs and societal sustainability, integrating key economic, social, and educational perspectives. By developing a unique evaluative methodology and providing empirical evidence from Kuala Lumpur's technical secondary students, the study offers valuable insights that challenge conventional views on vocational education. It provides practical recommendations for enhancing TVET programs and informs policy strategies aimed at aligning education with the goals of sustainable development. The relationship between the importance of Technical and Vocational Education and Training (TVET) programmes and their contributions towards the sustainability of society's development among Kuala Lumpur technical secondary students holds profound implications for various stakeholders. Firstly, recognizing the significance of TVET underscores the critical role it plays in shaping a skilled workforce tailored to the needs of industries, thus enhancing workforce development. Moreover, the correlation between TVET importance and societal development suggests that investing in these programmes can lead to economic growth, social inclusion, and environmental sustainability. To maximize these benefits, it is imperative to implement several recommendations. These include enhancing TVET curricula to align with industry needs, ensuring quality assurance mechanisms, promoting awareness about TVET benefits, fostering partnerships between educational institutions and industries, integrating sustainability principles into TVET programmes, and increasing investment and support for TVET infrastructure and students. By implementing these recommendations, stakeholders

can harness the full potential of TVET programmes in fostering sustainable societal development among Kuala Lumpur technical secondary students.

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