



# The need for Technical Communication for 21st Century Learning in TVET Institutions: Perceptions of Industry Experts

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DOI: <https://doi.org/10.30880/jtet.2021.13.01.016>

Received 30<sup>th</sup> March 2020; Accepted 30<sup>th</sup> August 2020; Available online 31<sup>st</sup> March 2021

**Abstract:** Skills-based institutions have been training students to communicate in English in the automotive industry. However, there does not seem much research on communications skills needed among employees in the automotive industry in Malaysia. Hence, this study investigates the opinions of experts in the automotive industry to determine the expectations on graduates' technical communication competency. An interpretive qualitative approach was employed where interviews with five experts from different backgrounds in the automotive industry, was conducted. These experts were selected from a specific criterion to ensure they had supervised graduate interns. The transcripts of their interviews were analyzed thematically. The industry experts mainly emphasized the lack of technical communication language skills among graduates and the need for transferable skills related to technical communication. The experts also stressed that collaboration between the industry and training institutions was needed to develop pedagogical modules for technical communication for the automotive industry. Hence, skill-based institutions should collaborate with the industry to identify current needs in the industry in order to prepare graduates for the workplace. The implication of this study is on the need for graduates to have technical communication to be relevant to industry.

**Keywords:** Technical communication pedagogical module, TVET, automotive, skills-certified institutions

## 1. Introduction

Malaysia is one of the countries which is reliant on both high-skilled and low-skilled migrants for its emerging economy (Jordaan, 2017). As these skilled migrant workers generate positive productivity effects in Malaysian manufacturing industries, most employers prefer hiring them for the contemporary international competitiveness (Jordaan, 2017). Over reliance on foreign workers has given a significant impact on the employment opportunity of locals and their wages (Bachtiar, Fahmy & Ismail, 2015). To rectify the situation, the Eleventh Malaysia Plan (2016-2020) states that there will be 1.5 million jobs created by 2020 to provide opportunities for locals and reduce dependency on foreign workers. 60% of the 1.5 million jobs, will require TVET-related skills and labour productivity, and wages is expected to be improved through the shift to high-skilled jobs. This shift calls for a drastic increase in hiring of skilled workers who can meet the industry's expectation based on current and future needs.

It was argued that, new vocationalism has to be applied to for the acquisition of new knowledge and skills in employment after graduation (Lauzon, 2018). The TVET curriculum needs to emphasise on transferable skills as well

as the technical and vocational skills (Alias, DeWitt & Jamaludin, 2018). Hence, modular integration, a negotiated curriculum and providing exposure to social and life skills with collaboration and teamwork are some of the techniques of the new curriculum (Lauzon, 2018). Hence, pedagogy in 'New' vocationalism emphasizes learner autonomy, self-reliance, student-centered, out-of-school learning, experiential learning, active learning and learn by doing, which is a curriculum relevant to employers and future employees (Gothard & Goodhew, 2018; Lauzon, 2018; Wellington, 1993).

Basically, new vocationalism calls for collaboration between industry and academic experts. In fact, the National Higher Education Strategic Plan (NHESP) states that HEIs should undertake curriculum reviews at two-or-three intervals, taking into consideration the views of academicians, industrial experts, government officials and members of non-governmental organizations, to improve the quality of teaching and learning in higher education institutions (Weiss, 2014). TVET now emphasises on the delivery of quality education at all levels with an aim of producing highly competent and skilful graduates who are capable of functioning well within and outside an organization. This is because today's employers require their employees to have specific technical skills as well as generic skills. The generic skills include two main domains which are creative and innovative thinking, and interpersonal skills (Alias, et al., 2018). The interpersonal skills are the social skills for interaction and communication and includes the learners' personality. Communication skills are especially vital in the TVET context where technical communication is crucial for exchanging technical information.

Technical communication includes both oral and written communication. DiSanza and Legge (2002) drew a more specific definition of technical communication as "scientific, technological, engineering, business, legal, regulatory, managerial or social scientific information". Being competent at communicating ideas and information within an organization will increase the effectiveness of organizational communication and it will empower businesses. Technical communication plays a vital role in gathering, organizing, presenting and refining information for internal and external use of an organization (Jamaludin, Alias, DeWitt, & Razzaq, 2019; Kimball, 2017).

## 2. The Current Study

The new vocational curriculum should take the view of industrial experts to improve the quality of teaching and learning in higher education institutions (Weiss, 2014) and emphasise transferable skills, especially the interpersonal skills for socialization, collaboration and teamwork. However, industry feedback consistently reveals that, there is a disconnect between skills required by the industry and skills attained by the graduates to secure an employment. According to Aring (2015), the quality of TVET is low in many ASEAN countries. One of the reasons may be due to lack of industry input in the curriculum design (Aring, 2015). Those who do not equip themselves with employability skills which include the required skills, knowledge and attitudes are unable to get an employment (ADBI, ILO & OECD, 2015).

Communication is an important skill for TVET graduates. In TVET institutions, the ability to communicate technical information is one of the skills expected from the graduates. Krishnan, Ching, Ramalingam and Maruthai (2019) stated that, graduates' employability is affected due to their poor communication skills. Employers as well as the fresh graduates themselves perceive that having poor communication skills is one of the main reasons for graduates to be unemployed (Omar & Rajoo, 2016; Shamsuddin, Isa, Aziz, Mahfol, & Alagari 2013). This can be seen through the unemployment rate which was recorded at 3.3% in the year 2019 (Department of Statistics Malaysia, 2019).

However, it is not known what are the essential communication skills required by the industry. In this study the automotive industry is selected as this is a prominent industry in Malaysia. It is vital to determine the industry's expectations of the technical communication skills and integrate these skills in an industry-led curriculum for automotive programmes so as to meet the industry's demand. In this way, the graduates will be better prepared for employment. As such, this paper aims to investigate the automotive industry's expectations on graduates' technical communication competency in answering the research question: what is the automotive industry's expectation on graduates' technical communication competency?

## 3. Methodology

The current study employs an interpretive qualitative approach and uses the inductive approach to understand the context of the automotive industry from the experiences of the experts involved in training interns and fresh graduates. Data were collected through interviews and socially constructed during the interactions with the experts to explore their opinions on the need for the technical communication competency to be successful in the related jobs. The varied experience and knowledge among the experts would provide rich insights into need for this competency in this industry (Merriam, 2009; Patton, 2015).

### 3.1 Criteria of Experts as Participants

The participants were experts from the automotive industry in the northern and Central region of Malaysia and were identified based on the following criteria:

- a) A minimum of 5 years working experience in automotive industry (Berliner, 2004; Akbari & Yazdanmehr, 2014)

- b) Had a Diploma / degree in an automotive-related programmes.
- c) Have supervised fresh graduates or / and interns.
- d) Skillful in any one of the major areas in automotive industry as follows: Automotive Management Systems; Manufacturing Engineering Technology; Vehicle Assembly Management; Vehicle Parts Management; Vehicle Inspection; Automotive Technology; Automotive Engineering Technology; or Mechanical Engineering Technology.

Five automotive industries were identified in the northern and central region industry and were approached for the selection of the experts based on the above criteria. Five experts were identified for this purpose.

### 3.2 Instrument

Interview protocols were established to guide the interview sessions with the industry experts. In these semi-structured interview sessions, all questions were used flexibly (Merriam, 2009; Patton, 2015). The largest part of the interview was guided by a list of questions or issues related to technical communication competency. Neither the exact wording nor the order of the questions was determined ahead of time. This format allowed the researcher to respond to the emerging views of industry experts and to new ideas on the topic (Merriam, 2009; Patton, 2015). Some of the participants' responses enlightened the flow of the interview which allowed the researcher to construct questions spontaneously to ensure richness of the data gathered. The content of interview protocol was validated by two experts who were Teaching technical English / English for specific purpose at higher learning institutions, had Ph.D qualification and a minimum of five years of experience in research activities at the higher education level.

### 3.3 Data Collection Procedure

The participants were identified by the Human Resource department of their respective organizations. Based on the selection criteria, the Human Resource personnel of the organizations recommended the most suitable person to be interviewed. The identified participants were then contacted through emails, and invitations were sent via email to fix an appointment for interviews to be carried out on a one-to-one basis. Face to face interview sessions were arranged with all the 5 industry experts at their respective workstations. This is to ensure that they provide an unbiased and truly independent opinion on the interview questions. List of semi-structured interview questions were used as a reference to guide the process of the interview sessions. During the interviews, questions were added spontaneously to understand socially constructed emerging issues.

### 3.4 Data Analysis

Thematic analysis was used to analyze the data collected via interview. The data collected from the interview sessions was analyzed using thematic analysis. The interviews were transcribed, and the transcripts were analyzed and coded according to identify the need for technical communication skills. The data was then classified according to the emerging themes. These emerging themes were used to discuss employers' expectation on graduates' technical communication based on the needs of automotive industry.

## 4. Findings

In investigating the automotive industry's expectations on graduates' technical communication competency, five themes had emerged. Firstly, the lack of technical language skills among graduates, followed by the need for transferable skills related to technical communication. The experts also stressed on the need for collaboration between the industry and training institutions, and for pedagogical modules to develop technical communication among graduates for the automotive industry.

### 4.1 Profile of Experts

The five experts who participated in the interview sessions were all from automotive companies but in different areas of specialization (see Table 1). All these automotive companies were private entities. One was a local car manufacturing company in the northern region while others were multinational car dealers and service centers, located in the northern and central regions of Malaysia. All experts had more than 6 months of experience supervising fresh graduates and interns. To ensure anonymity, pseudonyms were used for participants.

**Table 1 - Profile of experts**

Pseudonyms used	Company	Years of Experience	Number of supervisees	Position
Fairus	A	18	>50	Trainer for Technical Education
Chong	B	8	>20	Head of workshop
John	C	5	10	Dealer Instructor & Diagnostic technician
Wong	D	20	>50	Service manager
Jack	E	6	36	Workshop-Parts Executive

## 4.2 Technical Language Skills

The lack of language skills was one of the themes emerging from the interviews with experts. Graduates lacked technical communication skills as they were not familiar with the technical vocabulary in English. Many had poor technical oral proficiency as they had difficulty speaking, and hence performing well at work. In addition, technical writing skills were also necessary at the workplace.

### 4.2.1 Lack of Technical Vocabulary

A prominent theme emerging is the lack of technical vocabulary and use of inappropriate technical terminologies when communicating. Most of the new staff were not familiar with the appropriate use of terms within their department in the automotive industry. They usually face challenges at the beginning of their employment due to the unfamiliar terminologies at their workplace. For instance:

*“I’ll tell him, can you get me a size 14 coupling wrench, he has no idea what it is. [Giggling] but that is the proper terminology, right. The coupling wrench is used to turn joints” (Mr Jack).*

Mr Jack struggled with his internship students as most of his spare time was used to educate them. He was disappointed with their technical communication competency, evident in his response :

*“I always struggle because when I request a part, he doesn’t know what the part is. I request a tool, he doesn’t know what the tool is. And these are all the basic things, it’s not even going up to the special tools, the special maintenance!” (Mr Jack)*

This unfamiliarity with technical vocabulary also causes difficulties in understanding the instruction manuals. Most manuals are in English and mechanics have to read and understand the manuals in order to identify the parts, functions and procedures related to the automobile. However, the low proficiency and negative attitude towards learning English makes the students struggle even worse when they start working at companies well-established companies like Perodua, Mazda, and Nissan:

*“Because the words, they say they never learnt the words, it was very difficult to understand the English manuals. They come back to me and I explain in Malay or Chinese. (Mr Wong)*

Most interns and fresh graduates use vocabulary from their own dialect to refer to tools in the workshop. This might be due to the use of native language to teach skill-based courses.

*“So, as I mentioned, what they have learnt in the college, it has to be the same terminologies that they are going to use in the workshop. But as unfortunately, we, as I mentioned, most interns or fresh graduates, in the workshop, use so call our own language. So, especially if this particular group people, they are using their own dialects to learn. When they use their own dialect, they have another set of terminologies for this.” (Mr John)*

All the five experts are aware of the importance of English in the automotive industry. However, the overuse of local dialects often causes difficulties for employees when dealing with industry or training partners from different countries. Learning proper technical vocabulary and communicating accordingly will help staff function effectively and efficiently. This can be seen from the excerpt:

*“Maybe his problem is vocabulary or afraid that the meaning is not conveyed.... example in Perodua, our training partner is Japanese, so some of the terms we have to use Japanese to explain because it’s our culture. For example, safety related, so to “put safety related items” : these has got 4 words, sometimes on our side we will say SANKAKU, which means safety related, so we put a short sentence but in a meaningful way. But, yes, we need to write in English and want to send the report to Japan we have to write in English we cannot write in Bahasa*

*<Melayu> because they don't understand. Or when you want to ask for opinions, you also have to write in English.*

#### 4.2.2 Poor Technical Oral Language Proficiency

Another theme that emerged was the poor oral proficiency in the language. Two out of five experts have suggested to have Technical English classes for skill-based learners. They feel that, these classes will give them opportunities to use the language in automotive context.

*"Give the students more English class... help the students to speak in English... so when they come to work they know how to talk and do the work..." (Mr Chong)*

Besides that, technical English is also regarded as an important aspect in automotive industry by the experts. For example, one of the experts mentioned that, due to the lack of technical communication competency among fresh graduates or newly recruited staff, he had to retrain them on their technical English.

*"So I conduct training for supervisor, mechanic and service manager. The common training they have is for English as the English usage a bit different in Perodua. The moment they join Perodua, we need to retrain their technical English. Because their technical English need to be polished." (Mr Fairus)*

#### 4.2.3 Need for Technical Writing Skills

Apart from oral communication skills, the experts noted that technical writing skills were important. Three out of five experts stressed that fresh graduates, interns and newly recruited staff are also expected to be able to communicate technical information in the written form. They should be able to write emails, letters, details of services as well as technical reports (daily reports, weekly reports, case studies, field reports) and produce chronology of cases, all of which are important tools for internal and external communications.

*"Written is the easiest one. DTR. Which is the Daily technical report." (Mr Jack)*

*"Hurmmm...example...require, interns to come out with the weekly report, ok...a weekly report of what they did." (Mr Jack)*

*"Reports, email, letters... Warranty... sometimes customer complaint. So, need to write warranty report...give explanation related to customers complaints. Request from HQ... and ordering spare parts, no need to write report. Nowadays, we are using system. Just key in the items in the system. Only the letters we receive, we have to reply. We also write monthly reports" (Mr Wong).*

Hence, technical language skills are required for the automotive industry in order for the graduates to be competent in their work.

### 4.2 Transferable Skills

The emergent themes from the data indicated that several transferable skills were important for the automotive industry. Teamwork and communication are necessary for effective work flow and processes, while social and interpersonal skills are necessary for good customer relations. Technology skills for basic computer applications were required on the job and these skills were also required for technical communication such as for analysing data and predicting trends. In addition, skills such as practical problem solving and leadership skills were also required.

#### 4.2.1 Teamwork and Communication

The need for teamwork and communication was an emergent theme from the analysis. All five experts considered communications within the team as essential. Failing to convey the exact message that was intended to their team, slows down productivity and heightens possibilities for miscommunication. Each employee is responsible to members of their team.

*"We need to communicate with the customers, liaising with dealers, recording details of services.... communicate with our service team..." (Mr Wong)*

*"Umm technician will be in different department... so first the communication, teamwork and then so we focus on what we can do together. For example, first we have the front liner, then the second goes to the service advisor, who attends the customer. So, after that they proceed to the technician ..." (Mr Chong)*

The technician in the workshop needs to communicate with the service advisor on the condition of the car assigned to him. The service advisor must communicate this information to the customer. When the customer agrees to change the parts of the car, the service advisor has to communicate it with the technician. The technician has to communicate with the parts executive to get the parts of the car to be replaced. If the parts are unavailable, the parts executive proceeds to placing an order from their suppliers. In industry, the departments or units are inter-connected and this was the reason for all the experts to regard team communication as important in their routine jobs. However, the experts identify most fresh graduates face challenges in communicating information using proper terminologies. For example:

*“And Because I slow down this, I might get delayed ordering the part about a day later. And by delaying the order of the part a day, it might be shipped 3 days later. And then the cars get delayed. So, the mechanic can't finish his work. But the root cause of this was just because he couldn't communicate to me what he wanted. You see...and that is why in a workplace like this, team communication, and teamwork <is important>. Let's say, the parts executive, and the lead mechanic, and the sales advisor and the management. All of these people need to have communication. If the management doesn't pay the money for the spare parts, the spare parts are not going to arrive, even though I ordered it....so I need to make sure that the management, I need to push the management and communicate with them: 'hey look, you need to get this thing done". Then only I can get this done and your service can run. So, communication is the key, anywhere, whatever work you are going to do, wherever you are, in a office, in a.... mechanic .... or workshop environment” (Mr Jack).*

Therefore, getting messages across accordingly is perceived very important by all these five experts. It is also found that 'service advisors' are the mediators between mechanics and the customers. Hence, service advisors have to ensure that the information that they receive is conveyed accordingly to the respective people. However, Mr Fairus mentioned that Perodua is planning to remove the position of service advisor soon. This is because, service advisors often deliver inaccurate information to the technicians and the customers. This leads to miscommunication among the service team.

*“...so if u need them to learn English for me for future yes... because we try to remove service advisor...we prefer the mechanic and foreman understand the customers, really take notes all the problems customers face before they do the repairing...” (Mr Fairus)*

The focus on passing in examinations has resulted in the students being very individualistic. They were trained to perform tasks individually to score in their examinations at the institutions. However, this leads to a lack of ability to work together in teams. At the workplace, it is important to work in teams to achieve the common goals set for the team.

*“...When you study, everything is based on the individual. You make your scores. You get your marks. You are the one who studies, do your exams, and if you pass, you pass. Your friend fails, never mind. Okay. But at the workplace, if the team of five people fail, you fail lah, all five people. But, that is, that is how it is. You see, the workplace is like that”. (Mr Jack)*

#### **4.2.2 Social Skills for Establishing Good Customer Relations**

The industry expects fresh graduates or interns to be able to communicate at all levels in the automotive sector.

*“We need to communicate with the customers, liaise with dealers, record details of services, communicate with our service team” (Mr Wong).*

Good customer relationship to convey the technical information in a simple and precise manner and requires social skills.

*“We need to understand the customers. To understand them, we need to have proper communication skills...then to convey the technical information with the team we need proper technical communication skills” (Mr Jack).*

To be specific, the front liners and service advisors are responsible to entertain the customers who visit the organization. Therefore, they should equip themselves with technical communication skills. This will help in communicating technical information efficiently.

*“...This is the role of the service advisor. They are the frontlines. They advise customers actually. So, when they advise customers, they need to communicate with the technicians. So, when they do the communications with the technicians, they should be able to relate what the customers want actually. And then when the technicians also give the feedback, you should be able also to communicate with the customers, in the customers point of view that they are going to understand what you are saying” (Mr John).*

Graduates and interns would need to have social and interpersonal skills to be able to socialise with the customers, empathise with them, as well as make appropriate suggestions when required.

### 4.2.3 Technology Skills

There are other soft skills which may need to be developed which is also related to technical communication. Students will require computer skills as they need to do data entry, data analysis, and need to describe trends, analyse problems and find the root cause of the problems. These technology skills are related to technical communication as these skills are necessary for reporting and communicating accurately. However, it was found that most fresh graduates lack technology skills for using the computer and knowledge for data analysis.

*“We also have some problems...We use Microsoft Excel, Word, Powerpoint. Some of them are not good in this. All of them have to use this platform because there is a lot of data. We have to record the data and when we give to them, they say I don't know how to use Excel. We give them the Powerpoint, they only can do simple Powerpoint... so when they do presentation it is very dull and not interactive.... sometimes they can put pictures....so, they start to complain...tak ajar la....so but along the way they learn....that's what we face...computer knowledge is very low. For us Excel is always number 1 , number 2 Powerpoint, number 3 is Words to talk about trend.” (Mr Fairus)*

*“Understand the data..... understand the trends.... put some analytically terms inside the module, let's say this number in 2018 have this number and 2017 we have this number we want to know about the numbers. We want to know the analytical aspects...” (Mr Fairus).*

Hence, according to Mr Fairus, the current students needed to be trained on not only in technical knowledge but also computer skills and technical communication skills.

### 4.3.4 Practical Problem Solving Skills

The need for practical skills was another theme that emerged. All of the experts identified that the examination-oriented system was making students inefficient at their workplace. Students who studied only for the sake of passing their examinations tend to make many mistakes at the workplace as they lacked practical skills. Most of the time they were not able to visualise what was happening. This is evident in the excerpt below:

*“whereas, this book smart person, they have the tendency to make mistakes because they cannot imagine what the customers is saying” (Mr Fairus)*

Students who study just to score in the examinations, do not have sufficient practical experience. They did not have experiences of failing and learning through their mistakes.

*“I don't know if you will agree with me... most of our degree students, most of them study for the exams...Yes more exam-orientated, the moment they come in to work , they can't remember anything, but they need to use or apply whatever they learnt...and we ask them, why this report is wrong? Don't you know how to calculate? And they say, I can't remember. Just 1 month or 1 year ago, but they cannot remember.” (Mr Fairus)*

The employer cannot be deliberately teaching everything to the intern or new staff. Students should be prepared for scoring in examinations, but they also need to be exposed to practical work processes which are never tested during the examinations.

*“...I find it hard to explain to these students that they need to know information for their exams as well as understand when it comes to the workshop, there are a hundred other tools that you have not studied about in your exams.” (Mr Jack)*

Procedures are familiar only when they are implemented and practiced often. When the students perform tasks on their own, they will learn and remember better and it will also help them to better visualise the problems encountered.

### 4.2.5 Leadership Skills

The importance of leadership skills in preparation for the future was another emerging theme. Technicians, mechanics or foremen in this industry are not going to be in the same position till the end of their careers. As their number of years of service increases, they get more experience and explore different areas and need to be promoted to next level. This happens when they equip themselves with other skills apart from technical skills, and show leadership in thinking, presenting ideas, giving encouragement and support to other team members.

*“They can join Perodua as mechanic, and be upgraded to executive level. From this level until foreman, they’re more on the workshop. So, their communication is more among mechanics and foreman, their communication is very technical whereas at the executive level they’re more to communicating with the customers” (Mr Fairus)*

Hence, several transferable skills were identified as being important and related to technical communication, namely teamwork, social and interpersonal skills for fostering good customer relations as well as technology skills for writing reports. In addition, skills for practical problem solving as well as leadership skills were identified as being important.

#### **4.3 Collaboration between Industry and Institutions**

As for suggestions for improvement, one common theme that emerged was that there should be collaboration with the industry. Institutions are encouraged to collaborate with the industry to keep them updated with the latest practices and advancement in the technology used within the industry. Sometimes, the books that students refer to gain knowledge can be out of date where it may no longer be in practice. This way the lecturers can ensure that the syllabus is align with the needs of the industry to which can help to produce work ready graduates. Therefore, all the five experts strongly encouraged the students and lecturers not to be 100% reliant on their reference books. They need to work closely with the industry to update their knowledge, course content and teaching materials accordingly.

*“For those skill-based institutions, the best thing they can do is, collaborate with the industry. So, in terms of technology, industry is the source. They are the origin. So, for specific institutions if you want to produce students or graduates that are really industry ready, you must have the input from the industry. So, you must have the information, the technical information, at least you should have the product training. So, in this way the syllabus that you are using, it should be also aligned with industry. So when we are talking about syllabus, is not only about the content, the task that you are going to let the students perform, it is also about the super terminologies that it should be specific because there is no point you are teaching here, and the terminologies are not used in the workshop. So, they should collaborate with the industry.” (Mr John)*

*“So, yah, I feel that if colleges can liaise with companies, collaborate with the big industries. Perodua is a big company, Proton is a big company...we can just go to simple ones, any automotive college and just go up to the local service centre” (Mr Jack)*

#### **4.4 Pedagogical Skills for Teaching Technical Communication**

In addressing the lack of technical communication skills among graduates, there were suggestions for improving the pedagogy of teaching technical communication. Mr Jack suggested looking for suggestions in older, phased-out manuals on developing a Technical Communication Pedagogical Module to enhance current students’ technical communication competency. In this way, students will be exposed to real technical language in practice and there would not be a need for the industry to spend time in retraining fresh graduates or new employees. This is evident in the excerpts below:

*“That is where this module I feel that you need to look at a lot of actual technical manuals. I have a suggestion. If colleges want to get a good module done, based on technical language, go and find the phased-out manuals. Manuals that have been phased-out. That means the car is no more in production. So, the manual is no more in use. Go and get those. By getting those, you’ll have proper sample of what is needed. What is the idea of a manual, how is it written in steps. Teaching using normal chalk and talk is going to be boring...” (Mr Jack)*

*“We are focusing on the automotive industry. Then your technical English should contain all the terminologies used in the automotive industry and how you are going to get it? Of course as I said work, collaborate with the industry. Have a technical English class...give training” (Mr John)*

Furthermore, one of the industry experts recommended an instructional tool which was used in practice for teaching technical communication. According to Mr Fairus, MIRUKA board is widely used for presentation in Perodua. It is a board that is filled with the copies of printed slides in a sequential order. This way, the presenter will be able to give more importance to the content rather than the animation or the design of the slides. It also allows the listeners to refer to the previous slides without disrupting the presentation. This will keep everyone focused on the information presented to them. For example:

*“MIRUKA board. So we have 4 feet x 8 feet, whatever your powerpoint presentation you have to print and paste on the board. The slides.... you have to print and you ask them to stand and look at the board because if you use the powerpoint you cannot remember the slides number, no.3, no.4, no.5. The A4 paper.... the moment you have, you will put all... so you explain... as I mention*

*before, this is what we say MIRUKA board. Presentation is only for business but technical we have to use MIRUKA board because we always have to link to here and there. So even though you come in late, you still can catch up because everything is there... so the moment you do PowerPoint, you cannot ask them "can you change the slide?"...so people get frustrated" (Mr Faisal)*

The need for technical communication was prominent during the interviews with the experts. Although, technical communication was considered a language skill, it was different from communicative English or Business English and needed to be taught differently for the automotive industry.

## 5. Discussion

One of the key findings from the data was the lack of collaboration between instructors in the skills-based institutions and the automotive industry. The lack of interaction and collaboration with stakeholders and industry employers has been a cause of concern as lecturers teaching language skills as the English for Specific Purposes noted the lack of suitability of the curriculum (Ahmad, Muhammad & Jamil, 2019). This would result in poor technical communication. The industry experts identified that graduates and interns had poor oral and written technical skills. This was probably due to the unsuitability of the curriculum (Ahmad et al., 2019) and the lack of suitable written exercises in the current module (Isnin, Mustapha, & Othman, 2018). In addition, many lecturers wrongly perceived that the written exercises in their English language courses were sufficient for writing technical reports (Isnin, Sapuan, Aarif, & Mustapha, 2019). Therefore, it was suggested to spend more time emphasizing writing skills especially writing reports (Isnin, et al., 2019).

The poor communication proficiency among graduates is an issue which needs to be addressed. Selvaratnam (2019) stated that poor command of English among fresh graduates is the primary reason for the decline of unemployability. The poor language skills might be attributed to the exam-oriented education system as students seem to memorize sentences when learning English language (Dwee, Anthony, Salleh, Kamarulzaman, & Kadir, 2016). Language learning needs to be in authentic situations where learners are given the opportunity to use the language. Hence, in the technical communication context, learners need to be provided more opportunities to interact in authentic situations related to the automotive industry.

However, the industry experts had noted that students were not confident in using English for their daily interactions as they probably lacked the technical vocabulary. The lack of confidence in using the language is one of the main barriers for students to communicate in English (Palpanadan, Ahmad, & K.Ravana, 2019). In addition, self-confidence is one of the key soft skills which increases TVET students' employability after their graduation (Haron, Mohammad Hussain, Ali, Che Rus, & Mohammad Zulkifli, 2019). Hence, language learning needs to emphasize and build students self-confidence in using the language.

Other transferable skills such as communication and teamwork skills were needed by employers in the automotive industry similar to other industries (Bee & Hie, 2015). The lack of teamwork, according to the industry experts, was mostly due to their poor communication skills. This was because new staff and fresh graduates used inappropriate vocabulary in the automotive context which causes barriers in communication. Teamwork and communication is an important transferable skill necessary for employability (Azmi, Hashim & Yusoff, 2018). Another important transferable skill is social skills. The industry experts emphasized that poor social skills resulted in poor customer service. This is consistent with the findings of Krishnan, Ching, Ramalingam and Maruthai (2019) which revealed that the graduates' poor communication skills affect their clarity of speech while handling customers. Hence, social skills and interpersonal skills when handling customers are important in order to communicate the technical situation in a simple and comprehensive manner.

The industry experts also claimed that students lacked the practical experience and could not solve problems in the workplace. They attributed it to the examination-oriented system which provided little practical and hands-on skills. Exam-oriented system causes learners to be followers and having a limited worldview (Fadhlullah & Ahmad, 2017). Hence, more opportunities to practice practical skills such as using technology applications such as Microsoft Word, Excel and Powerpoint for writing and presenting reports, and for problem solving should be provided. Hence, English language instructors preparing students for the automotive industry need to be informed of the issues faced by employers. This would assist them in preparing modules which would cater to the industry's needs.

The industry experts had also noted the need for language instructors to use more relevant pedagogies which would interest the students and provide authentic opportunities for problem solving. Hence, collaborating with the industry would enable instructors to plan learning environments which were suitable to the automotive industry and hence, better preparing students for their work.

## 6. Conclusion

The advances in technology is fast changing the practices in the industry. In order for TVET graduates to be prepared for the real world, TVET institutions need to work closely with the industry experts to ensure that the

graduates produced are aligned with the industry needs. This would enable them to be absorbed into the workforce without much training.

This study highlighted the need for technical communication skills specific to the automotive industry. In addition to the technical language skills, transferable skills such as teamwork, social and interpersonal skills, technology skills, problem solving and leadership were needed. Hence, to address the issue of fresh graduates or interns who need to be retrained on their technical communication English and other skills when beginning employment, TVET institutions should teach technical communication and allow for opportunities for students to practice using the language in authentic situations. This means providing opportunities to work in teams, solve problems, write reports, and communicate technical information in automotive context.

Pedagogical materials for technical communication is different from materials used for training basic English skills for the work place. In particular, materials for the automotive industry are specific to the industry such as manuals and texts from car magazines. Instructors who teach English in skills-based institutions may not have the experience and the resources for teaching technical communication. In addition, they may not have the time and the opportunity to interact and collaborate with the industry experts. Hence, having a pedagogical module with the resources and activities relevant for teaching technical communication and the transferable skills important in the automotive industry is important for language instructors. This would ensure that the students have the skills for the context at work. Hence, future studies should focus on the development of a module suitable for instructors in the skills-based institutions for the automotive industry.

Students who has high proficiency in technical communication and transferable skills would be highly sought-after. A pedagogical module for instructors to develop these skills among students would help address the issue of the mismatch between demand and supply of high-quality human capital which has been a hindrance for Malaysia in achieving its goals of producing creative, innovative and technology-savvy graduates (Selvaratnam 2019). Hence, in order to achieve the aspiration of being an export-oriented high-income nation, we need to develop human capital in this area.

## Acknowledgement

Special thanks to all personals individuals who involves in this research.

## References

- Abdullah, S., & Majid, F. A. (2013). English Language Teaching Challenges in Malaysia: Polytechnic Lecturers' Experience. *World Applied Sciences Journal*, 28 (4), 540-547
- Asian Development Bank Institute (ADB); International Labour Organization (ILO); Organisation for Economic Co-operation and Development (OECD). (2015). *Building Human Capital through Labor Migration in Asia*. Japan: ADBI, ILO, & OECD
- Ahmad, N., Muhammad, A. M., & Jamil, A. (2019). The Potential Use of Collaborative ESP Testing Implementation Framework (CETIF) in Addressing Underlying Issues in ESP Curriculum and Testing Faced by English Lecturers Teaching Engineering Students. *International Journal of Modern Languages and Applied Linguistics*, 2 (2), 10-19
- Akbari, R., & Yazdanmehr, E. (2014). A Critical Analysis of the Selection Criteria of Expert Teachers in ELT. *Theory and Practice in Language Studies*, 4(8), 1653–1658. <https://doi.org/10.4304/tpls.4.8.1653-1658>
- Aring, M. (2015). *ASEAN Economic Community 2015: Enhancing competitiveness and employability through skill development*. Thailand: International Labour Office
- Azmi, I. A., Hashim, R. C., & Yusoff, Y. M. (2018). The Employability Skills of Malaysian University Students . *International Journal of Modern Trends in Social Sciences*, 1(3), 01-14
- Bachtiar, N., Fahmy, R., & Ismail, R. (2017). The demand for foreign workers in the manufacturing sector in Malaysia. In A. S. Mazlan, Z. A. Manaf, R. A. Rahman, & S. Saad (Eds.), *Foreign Labour in Malaysia: Selected Works* (pp. 85-112). Kuala Lumpur: Ministry of Higher Education
- Bee, O. K., & Hie, T. S. (2015). Employers' Emphasis on Technical Skills and Soft Skills in Job Advertisements. *The English Teacher*, XLIV(1), 1-12
- Berliner, D. C. (2004). Describing the Behavior and Documenting the Accomplishments of Expert Teachers. *Bulletin of Science, Technology & Society*, 24 (3), 200–212. <https://doi.org/10.1177/0270467604265535>
- Collier, J. H., & Toomey, D. M. (1997). *Scientific and Technical Communication: Theory, Practice and Policy*. Thousand Oaks, CA: Sage Publications
- Department of Statistics, Malaysia. (2019, August 09). *Key Statistics of Labour Force in Malaysia, June 2019*. <https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=QzdJY2RlK0pvZ2hUb3MzTFVJU0FiZz09>

- DiSanza, J. R., & Legge, N. J. (2002). *Business and Professional Communication : Plans, Processes and Performance*. (6<sup>th</sup> Ed.). Boston, MA: Pearson
- Dwee, C. Y., Anthony, E. M., Salleh, B. M., Kamarulzaman, R., & Kadir, Z. A. (2016). Creating Thinking Classrooms: Perceptions and Teaching Practices of ESP Practitioners. *Procedia - Social and Behavioral Sciences* 232, 631 – 639
- Fadhlullah, A., & Ahmad, N. (2017). Thinking Outside of The Box: Determining Students' Level of Critical Thinking Skills in Teaching and Learning. *Asian Journal of University Education*, 13(2), 51-70
- Gothard, W. P., & Goodhew, E. (2018). *Guidance and the Changing Curriculum*. Oxfordshire, UK: Routledge
- Haron, M. A., Mohammad Hussain, M. A., Ali, E., Che Rus, R., & Mohammad Zulkifli, R. (2019). The Importance of Generic Skills for Technical and Vocational Students Employability. *International Journal of Academic Research in Business and Social Sciences*, 9(7), 33–45
- Hussin, H., Amran, A. C., Hanafiah, M. A., Salim, F., Ali, A., Pramudya, G. A., et al. (2016). Malaysian Teacher / Lecturer Education Development in TVET: A Fundamental Framework for Human Capital Development. *International Business Management*, 10(15), 2980-2986
- Isnin, S. F., Mustapha, R., & Othman, W. M. (2018). Engineering Students' Perspectives on the Need of a New Module in Technical Report Writing. *Journal of Engineering Science and Technology*, 31-38
- Isnin, S. F., Sapuan, A. F., Aarif, F., & Mustapha, R. (2019). Mini Project Teaching Classroom Experiences at Malaysian Polytechnics: The Needs of module Improvement. *Green Technology & Engineering Seminar 2019*, 118-125
- Jamaludin, K. A., Alias, N., DeWitt, D., & Razzaq, A. R. (2019). Framework for Technical Communication Skills Content Development for Students in Malaysian Vocational Colleges: A Fuzzy Delphi Study. *Journal of Technical Education and Training*, 11(4), 36-44
- Jordaan, J. A. (2017 ). Foreign workers and productivity in an emerging economy: The case of Malaysia. *Review of Development Economics*, 22, 148-173
- Jabatan Perdana Menteri (JPM) (2015). *Eleventh Malaysia Plan 2016 - 2020*. Putrajaya, Malaysia: JPM
- Krishnan, I. A., Ching, H. S., Ramalingam, S., & Maruthai, E. (2019). An Investigation of Communication Skills Required by Employers from the Fresh Graduates. *Pertanika Journal Society Science & Humanities*, 27(3), 1507-1524
- Lauzon, G. P. (2018). *Educating a Working Society: Vocationalism in 20th Century American Schooling*. Charlotte, NC: Information Age Publishing
- Merriam, S. B. (2009). *Qualitative Research : A Guide to Design and Implementation*. San Francisco, CA: Jossey - Bass
- Omar, C. M., & Rajoo, S. (2016). Unemployment among Graduates in Malaysia. *International Journal of Economics, Commerce and Management*, 4 (8), 367 - 374
- Palpanadan, S. T., Ahmad, I., & K.Ravana, V. (2019). Factor Analysis of English Communication Competency among Malaysian Technology Undergraduates. *International Journal of Mechanical Engineering and Technology*, 10(3), 808-817
- Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). Thousand Oaks, CA: Sage
- Selvaratnam, V. (2019). Malaysia's National Language Policy and Graduate Employability. *International Higher Education*, 96, 16-18
- Shamsuddin, A., Isa, K. H., Aziz, M. N., Mahfol, N. Z., & Alagari, T. (2013). Graduate Unemployment: The Awareness and Perception of Graduates Towards Government's Initiatives. *International Journal of Business, Economics and Law*, 3(1), 15-24
- Shamsudin, S., & Sanmugam, S. T. (2015). Readiness to teach ESP: A case of polytechnic English language lecturers. *Medwell Journals*, 10(3), 346-352
- Wellington, J. (1993). *The Work Related Curriculum*. London, UK: Kogan Page Limited
- Weiss, M. L. (2014). *Routledge Handbook of Contemporary Malaysia*. New York, NY: Routledge