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# Communication Skills of Vocational College Students After Completing Industrial Training

**Nur Afiza Md Sopi[1]*, Hasyamuddin Othman[2]**

[1] *Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia , Batu Pahat, 86400, MALAYSIA*
[2] *Associate Professor, Faculty of Technical and Vocational Education, Universiti Tun Hussein Onn Malaysia Batu Pahat, 86400, MALAYSIA*

*Corresponding Author: gb210034@student.uthm.edu.my
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**Abstract**

Educational institutions must prioritize the development of employability skills among TVET students, as employers increasingly seek candidates who possess strong employability skills in addition to technical expertise. Hence, this study aims to identify the employability skills of Diploma in Construction Technology students from vocational colleges in the East Coast region, as perceived by both the students and construction industry practitioners, with a focus on communication skills following the completion of industrial training. This study is a quantitative research project supported by qualitative methods using surveys and interviews. Questionnaires were the primary instrument, while interviews served as a supplementary tool. The study included 94 Diploma in Construction Technology students from vocational colleges across the East Coast who had completed their industrial training, as well as three construction industry practitioners involved in the industrial training program, who participated as interviewees. The researcher employed IBM SPSS version 27 software to analyze the quantitative data and conducted thematic analysis for the qualitative data. The findings indicated that the communication skills of Diploma in Construction Technology students from vocational colleges along the East Coast were rated as highly proficient based on the mean score results, as perceived by both the students and construction industry practitioners. Therefore, it is hoped that these students can further develop their communication skills to ensure readiness for job interviews after graduation. This is particularly important considering the increasingly challenging nature of the workforce.

## 1. Introduction

Employability skills become one of the requirements for graduates to get a job which is often linked to the job market. The demand and supply of job opportunities as well as skill elements are taken into account in the selection criteria of prospective employees in the industry. Due to the diminishing job market, especially graduates of higher education institutions including TVET graduates, employers are very careful in hiring employees for the benefit of organizations in the industry. One of the most necessary skills is employability skills (Ali, 2023). Therefore, the employability skills of students, especially TVET students, need to be emphasized by TVET educational institutions because according to Mohd Noor & Abdullah (2020), employers are in high demand for students who have employability skills and not just technical skills.

To apply employability skills and increase the level of student competence as well as increase the marketability of vocational college graduates is to expose the real world of work through the implementation of industrial training programs (BPLTV, 2022). According to Jake et al. (2020), the problem occurs when they do not yet possess the necessary employability skills which are considered important if not a requirement for an internship or industrial training program.

### 1.1 Background of Study

Recently, the top four skills demanded by employers are critical thinking and problem-solving, teamwork, work ethics, and communication skills (Azmi et al., 2019). According to Dzia-Uddin (2020), communication skills, problem-solving skills, and teamwork skills are skills that need attention. A study by Haron et al. (2019) found communication, thinking, and problem-solving skills are very important by industry employers and required by vocational college graduates. Nevertheless, Ismawi et al. (2022) have identified several elements of employability skills that are important to be mastered, known, and practiced by Vocational College students and graduates, especially in the field of Construction technology, namely communication skills, technology use skills, information management, selection and analysis skills, cultural understanding skills, and technical skills. Mastery of these skills is very important for Vocational College graduates to stand out for employment in the construction field. However, this study will be focused on communication skills.

There appears no empirical evidence indicating employability skills specifically needed from fresh TVET graduates for the construction industry. Hence the need to study employability skills is considered essential to be acquired by TVET graduates before working in the construction industry as perceived by employers Mohammed dan Ijeoma (2022).

This research aims to explore the perceptions of students and construction industry practitioners regarding the communication skills of Vocational College Construction Technology Diploma students from the East Coast region upon completing their industrial training.

## 2. Literature Review

According to The Conference Board of Canada (2000), communication skills are basic skills which are a) reading and understanding information presented in various forms of words, graphs, charts, and diagrams; b) writing and speaking so that others pay attention and understand; c) listen and ask questions to understand and appreciate other people's point of view; d) sharing information using information networks and communication technologies such as voice, e-mail, and computers; e) use scientific, technological and mathematical related knowledge and skills to explain or clarify ideas.

Yaacob and Ahmad (2019) and Sharif and Zakaria (2023) argue that communication skills include the ability to convey ideas, effectively, and confidently verbally and in writing. In addition, communication skills are behavioral competencies such as listening carefully, giving correct feedback, and making presentations clear and understandable to listeners. This statement is supported by Zakaria and Daud (2020) that communication skills have three levels of mastery, the first level is the ability to convey ideas clearly and effectively, the second level is the ability to practice active listening skills and give feedback and the third level is the ability to make a clear presentation that appropriate to the listener's level.

According to Omar Ali and Abd. Rahim (2020), one of the identified causes of unemployment is poor communication skills. several factors that cause graduates to fail to get jobs that have been listed by employers, one of which is communication skills (Sharif & Zakaria, 2023). Communication skills are proven to be one of the elements of employability skills which is an important factor in increasing the marketability of graduates because most employers give priority to candidates who have good communication skills (Othman & Mat Teh, 2022; Ibrahim & Mahbob, 2021).

Failure to get a job is due to weak graduates and lack of confidence in communicating. It is already known that employees who are good at communication are needed by employers. This is because employers want every task given to their employees to be understood easily and clearly and to be able to provide good feedback. If graduates are not able or do not have good communication skills, it is difficult for them to get a job because employers' needs cannot be met to offer jobs to graduates. This is because, what is taken into account by the employer is the criteria which is also the main factor evaluated during the interview session before offering a job (Dzia-Uddin, 2020).

## 3. Methodology

This study employed a descriptive research design utilizing a quantitative approach complemented by the qualitative method. The quantitative data for this study were collected through questionnaires, developed based on the related literature review. Qualitative data were obtained through interviews with three practitioners in the construction industry. The population size of the study comprised 114 vocational college students pursuing a diploma in construction technology around the East Coast who had completed the industrial training program (On Job Training). Random sampling techniques were employed to select the sample, referring to Krejcie and Morgan's (1970) sampling table, which determined a total sample size of 92. A total of 114 questionnaires were distributed to the samples via Google Form, and 94 completed questionnaires were received by the end of the data collection process.

The instrument validation process was conducted by consulting two experts from the Faculty of Technical and Vocational Education (FPTV) and two experienced lecturers from Kota Bharu Polytechnic, whith expertise in the relevant field. A Malay language teacher from SMK To'Uban was chosen to check sentence structure and grammar. The reliability test has been conducted to identify the value of alpha Cronbach for the questionnaire items. The value of alpha Cronbach for the Vocational College Construction Technology Diploma students is 0.986 and practitioners questionnaire is 0.968, which indicates sufficient reliability (more than 0.6) by referring to Bond & Fox, 2015. To present the study's findings, mean scores were utilized to assess the employability skills of Vocational College Construction Technology Diploma students across the East Coast, as perceived by both students and construction industry practitioners. These skills were listed in the questionnaire and rated on a 5.0 scale, ranging from 1 (strongly disagree) to 5 (totally agree). Table 1 shows the interpretation of the mean score level based on the mean score chart proposed by Nunnaly and Bernstein (1994).

**Table 1**: *Min scores level interpretation (Nunnaly & Bernstein, 1994)*

| Score mean | Interpretation |
|---|---|
| 1.00 – 2.00 | Low |
| 2.01 – 3.00 | Medium-low |
| 3.01 – 4.00 | Medium-high |
| 4.01 – 5.00 | High |

## 4. Results and Discussions

This study seeks to understand the perceptions of students and construction industry practitioners regarding the communication skills of Vocational College Construction Technology Diploma students from the East Coast region after completing their industrial training.

### 4.1 Communication skills of Vocational College Construction Technology Diploma students and Construction Industry Practitioners

Based on Table 2, the results of the mean score analysis show that all items reach a high interpretation except for items B3, B9, and B16 which show a moderately high level of interpretation. While Item B10 shows the highest mean score value which is 4.55. The overall average mean score for the communication skills items is 4.22 which is at a high level of interpretation. While for the standard deviation, shows the dispersion of the respondents' answers with a standard deviation value of 0.419

**Table 2**: *Communication skills from Technology Diploma students and perception*

| Item No. | Items | Mean Score | Standard Deviation | Interpretation |
|---|---|---|---|---|
| B1 | I can follow the supervisor's instructions | 4.49 | 0.524 | High |
| B2 | I can speak to make others understand | 4.29 | 0.561 | High |
| B3 | I can speak and participate in conversations, discussions, and meetings | 4.07 | 0.676 | High |
| B4 | I can verbally convey ideas clearly and confidently during discussions and meetings | 4.13 | 0.609 | High |
| B5 | I can convey ideas, thoughts, information and messages through writing | 4.21 | 0.584 | High |
| B6 | I can negotiate to reach a decision | 4.17 | 0.666 | High |
| B7 | I can communicate well in various situations | 4.29 | 0.633 | High |
| B8 | I can communicate with others from different backgrounds and cultures | 4.22 | 0.658 | High |
| B9 | I can communicate in English well | 3.70 | 0.787 | Medium-high |
| B10 | I can communicate in Malay well | 4.55 | 0.521 | High |
| B11 | I listen and respond when communicating with others even with cues such as body language | 4.10 | 0.689 | High |
| B12 | write and speak during presentations so that others pay attention and understand | 4.10 | 0.657 | High |
| B13 | I listen and ask questions to understand and appreciate other people's points of view | 4.29 | 0.580 | High |
| B14 | I read and understand information presented in various forms (words, graphs, charts, diagrams) | 4.18 | 0.703 | High |
| B15 | I share information using various information and communication technologies (example: voice, e-mail, computer) | 4.16 | 0.661 | High |
| B16 | I use scientific, technological and mathematical knowledge and skills to describe and explain ideas | 3.91 | 0.771 | Medium-high |
| B17 | I can discuss to determine the need for materials, machinery, equipment (construction resources) based on the work program (work scheduling) | 4.31 | 0.656 | High |
| B18 | I can discuss the supervision of works on the construction site | 4.34 | 0.727 | High |
| B19 | I can communicate with colleagues to supervise on the construction site | 4.34 | 0.681 | High |
| B20 | I can communicate with other personnel on the construction site | 4.27 | 0.659 | High |

| Item No. | Items | Mean Score | Standard Deviation | Interpretation |
|---|---|---|---|---|
| B21 | I am able to communicate with the employer as well as possible | 4.43 | 0.558 | High |
| | **Average** | **4.22** | **0.419** | **High** |

Table 3 shows the results of the mean score analysis with each item reaching a high interpretation except for items B4, B9, B15, and B16 showing a moderately high level of interpretation. While Item B10 shows the highest mean score value of 4.52. The overall average mean score for the communication skills items is 4.19 which is at a high level of interpretation. While for the standard deviation, shows the dispersion of the respondents' answers with a standard deviation value of 0.440.

**Table 3**: *Communication skills from construction industry practitioners' perception*

| Item No. | Items | Mean Score | Standard Deviation | Interpretation |
|---|---|---|---|---|
| B1 | Trainees can follow the supervisor's instructions | 4.50 | 0.583 | High |
| B2 | Trainees can speak to make others understand | 4.29 | 0.544 | High |
| B3 | Trainees can speak and participate in conversations, discussions, and meetings | 4.17 | 0.595 | High |
| B4 | Trainees can verbally convey ideas clearly and confidently during discussions and meetings | 4.00 | 0.652 | Medium-high |
| B5 | Trainees can convey ideas, thoughts, information and messages through writing | 4.13 | 0.640 | High |
| B6 | Trainees can negotiate to reach a decision | 4.13 | 0.606 | High |
| B7 | Trainees can communicate well in various situations | 4.15 | 0.652 | High |
| B8 | Trainees can communicate with others from different backgrounds and cultures | 4.21 | 0.651 | High |
| B9 | Trainees can communicate in English well | 3.67 | 0.663 | Medium-high |
| B10 | Trainees can communicate in Malay well | 4.52 | 0.583 | High |
| B11 | Trainees listen and respond when communicating with others even with cues such as body language | 4.25 | 0.565 | High |
| B12 | Trainees write and speak during presentations so that others pay attention and understand | 4.10 | 0.592 | High |
| B13 | Trainees listen and ask questions to understand and appreciate other people's points of view | 4.27 | 0.610 | High |
| B14 | Trainees read and understand information presented in various forms (words, graphs, charts, diagrams) | 4.21 | 0.651 | High |
| B15 | Trainees share information using various information and communication technologies (example: voice, e-mail, computer) | 4.08 | 0.739 | High |
| B16 | Trainees use scientific, technological and mathematical knowledge and skills to describe and explain ideas | 4.02 | 0.758 | High |
| B17 | Trainees can discuss to determine the need for materials, machinery, equipment (construction resources) based on the work program (work scheduling) | 4.17 | 0.630 | High |
| B18 | Trainees can discuss the supervision of works on the construction site | 4.19 | 0.571 | High |
| B19 | Trainees can communicate with colleagues to supervise on the construction site | 4.31 | 0.657 | High |
| B20 | Trainees can communicate with other personnel on the construction site | 4.27 | 0.644 | High |
| B21 | Trainees are able to communicate with the employer as well as possible | 4.40 | 0.536 | High |

| Item No. | Items | Mean Score | Standard Deviation | Interpretation |
|---|---|---|---|---|
| | **Average** | 4.19 | 0.440 | **High** |

Based on the quantitative data analyzed, the communication skills possessed by Diploma in Construction Technology students show high interpretation. This was further buttressed by the construction industry practitioners interviewed thus:

*"Because all the communication we have received so far is okay. Can follow orders, no arguing there, arguing here, just what we tell him to do. Like that." – R1*

*"Okay, follow the instructions okay." – R2*

*"We asked him if he could answer in terms of work, right? "This work can be completed in how many days, how many people". – R2*

*"We often ask him to interact with the workers, as I told him, there are many things we can learn from the workers. There are workers who have experience. A lot of knowledge can get." – R3*

*"We ask him to assist. The report will be prepared by the staff. They will take pictures, but they also help for the preparation of reports." – R3*

*"The work at our site always requires him to watch as a monitor. He assists COW" – R3*

Referring to the analysis that has been carried out on communication skills, it was found that Diploma in Construction Technology students of vocational colleges around the East Coast can communicate well based on the perception of students and construction industry practitioners. Based on the average mean score, it can be concluded that the perception of students and the construction industry practitioners towards the communication skills that students have after completing industrial training is high interpretation. This proves that the industrial training undertaken by Diploma in Construction Technology students of vocational colleges around the East Coast has a positive effect on their communication skills.

The importance of these communication skills can be proven by a study conducted by Haron et al., (2019) on 269 industrial employers involved with vocational college students' industrial training program on Employability Skills Needed by Vocational College Graduates. The study found that communication skills are considered important by employers, among them being able to follow the instructions of supervisors, communicate with various races, discuss with others in finding ways to do their work properly, give adequate responses when communicating with others, communicate fluently in Malay, able to convey his ideas through writing, and fluent communication in English.

While the findings of a study conducted by Mohammed and Ijeoma (2022) on 439 construction industry practitioners from various positions and experienced in the construction industry show that communication skills are necessary for TVET graduates who are trained to work in the construction industry. The opinion of construction industry practitioners is in line with the communication skills possessed by Diploma in Construction Technology students around the East Coast based on the perception of students and the construction industry.

However, the results of the data analysis found that the lowest item from both the students' and the construction industry's perceptions was item B9 which is "I can communicate in English well" compared to the items in the other communication constructs with a moderately high level of interpretation. This finding shows that students and the construction industry have the same view on students' communication skills. The findings of this study prove that the statement by Ali (2023) that communication skills are skills that are relatively poorly mastered by the majority of TVET students, especially communicating using English, is accepted. Based on the findings of Ali (2023) and Abd. Razak and Hamid (2020) show that the ability of TVET students from Kota Kinabalu Polytechnic and

Sultanah Bahiyah Polytechnic to communicate in English is the lowest at a moderately high level of interpretation compared to other communication skills items which is in line with the level of interpretation of students and the construction industry towards Diploma students Construction Technology of vocational colleges around the East coast in this study.

Abd. Razak and Hamid (2020) argue that there is a probability that the application of English language skills is under-emphasized. This opinion is also supported by the construction industry in an interview session with the researcher that Diploma in Construction Technology students of vocational colleges around the East Coast use less English in communication. The construction industry believes that the weakness of students in communicating in English is because they only use Malay while studying at vocational colleges. Next, the construction industry stated that, during industrial training, students did not understand English terms in contract drawings. The construction industry places the level of English language skills of Vocational College Construction Technology students around the East Coast at a moderate level.

However, English is the second language that every individual needs to learn to improve self-development in the use of languages other than Malay (Zulkifeli et al., 2022). According to Haron et al. (2019), communication skills have been rated as very important by industry employers for the employment of vocational college graduates. It has been proven that communication skills are an important factor in increasing the marketability of graduates (Ibrahim & Mahbob, 2021).

Next, the findings of the analysis of communication skills are at a medium-high level of interpretation from the student's perception for item B3 which is "I can speak and participate in conversations, discussions, and meetings" and for item B4 which is "Trainees can convey ideas orally clearly and confidently during discussions and meetings". The findings of the survey conducted by the researcher on Construction Technology Diploma students around the East Coast are in line with the opinion of the construction industry based on interviews that have been conducted in which students only attend meetings but do not speak and participate in conversations and do not give any ideas or opinions. Students who only listen to discussions in meetings are likely to have a feeling of fear or lack of confidence to speak up and still have little or no knowledge of the construction industry. According to Masduki (2021), workplace communication skills especially in the engineering or technical fields are very important for a student to have because the accurate and fast delivery of information in the workplace organization is essential either verbally or in writing. Among the required communication skills are interaction skills in meetings, presentation skills, and team discussions as well as minutes and technical report writing skills. These communication skills are very useful in the field of TVET because this field is a very important field for developing countries such as Malaysia.

Next, the findings of the analysis of communication skills from the students' perception, item B15 which is "I share information using various information technology and communication technology" is also at a moderately high level. The findings of this student survey differ from the findings of the survey of the construction industry where the mean score is at a high level. The employer's findings are supported by the results of interviews with respondent 1 who found that male students use the WhatsApp application to report work on site. While female students are skilled in using computers to do work in the office male students are less skilled in using computers because they do a lot of technical work on-site. Respondent 1's opinion on male students is in line with Respondent 2's opinion that male students are less skilled at using computers.

Item B16 which is "I use scientific knowledge, technology and mathematics as well as skills to explain and explain ideas" is also at a moderately high level of interpretation from the perception of students and the construction industry. The results are supported by the view of respondent 3, students are not skilled in using mathematics to explain and explain their ideas regarding the calculation of materials on site as requested by the construction industry. Students are not able to explain and explain their ideas to the construction industry regarding the assignments given. It can be concluded that communication between students and the construction industry is not going smoothly because there are weaknesses in the students in completing the tasks given by the construction industry.

## 5. Conclusion

Communication skills as well as thinking and problem-solving skills are very important employability skills for students to learn during industrial training. Through the research that has been carried out, the researcher found that students' employability skills from the aspect of communication skills as well as thinking and problem-solving skills that students have after completing industrial training are high from the perception of students and the construction industry. These two skills play an important role for Vocational College Construction Technology Diploma students after graduation to market themselves in the construction industry as construction site supervisors.

However, the researcher suggests that Diploma in Construction Technology students of vocational colleges around the East coast are expected to strengthen themselves with communication skills to ensure that students are prepared to attend interviews after graduation. This matter is very important because of the challenges that students will face while working is more challenging. The researcher suggested that BPLTV needs to improve the curriculum, especially English, mathematics and computer technology so that students can be prepared for industrial training in communicating and solving problems. On the part of the industry, it is suggested that industrial training trainees be exposed to using English as a second language which is important in communicating in the workplace. The industry also needs to trust the trainees in carrying out work on the construction site and ensure that the appointed mentors are ready to guide the vocational college trainees throughout the industrial training period so that these two important aspects of employability skills can be applied to the trainees during the industrial training. Finally, vocational colleges need to collaborate with employers who are willing to accept and guide vocational college students in the construction industry.

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## Conflict of Interest

Authors declare that there is no conflict of interests regarding the publication of the paper.

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