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TVET Teaching Implementation: Competency, Challenges and Motivation

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Abstract: The purpose of this research is to determine the competencies, obstacles, and motivations associated with the implementation of TVET instructions at Vocational Colleges. The competency aspects analyzed are the knowledge and skills. The problems that educators have in implementing TVET teaching, as well as the motivation of educators in implementing TVET teaching, are also examined. This study involved 76 TVET educators from selected Vocational Colleges. The data was collected using a survey form and analyzed using a descriptive method to get the mean score and standard deviation. The findings of the study revealed that the level of knowledge, skills, and motivation of the educators is high while the challenges assessed got a moderate level of score. In summary, the implementation of teaching among TVET teachers has an element of high teaching competence but in facing the challenges while implementing teaching has a variety of responses. Apart from knowledge, skills, motivation, and challenges, strengthening from the aspect of teaching delivery is a necessity towards the consolidation of quality teaching in TVET.

Keywords: Knowledge, Skills, Motivation, Challenges

1. Introduction

According to the Ministry of Education Malaysia, Technical and Vocational Education and Training (TVET) is an education and training technique for people with specialized talents that will be used in the industry in the future (MOE). One of the TVET institutions is Vocational College. To fulfill in full, later abbreviate aim of having the best-selling TVET students, the company must supply professional, skilled, and competent educators. To provide students with practical knowledge and skills, teaching professionals must strive to attain the highest possible practical standards (Che Kob, 2018). The teaching of TVET should be carried out by an educator who is professional and capable of carrying out the tasks to attain a high-quality education (Bambang Sulistyo, 2016). Quality teaching delivery must be based on the mastery of knowledge and skills as well as motivation in facing challenges. As a TVET educator, the need in pedagogy content mastery needs to be supported by competent technical

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content mastery. Therefore, self -awareness among educators should always be there so that the teaching methods implemented are always improved.

Teaching competencies in terms of knowledge, skills, and attitudes in facing the ability of effective teaching delivery needs to be improved from time to time. The in-question competencies are personal competencies that indicate an educator's knowledge, abilities, and attitudes. Instructors need professional development courses to support effective teaching skills. According to Ahmad (2020), educators should have extensive training to be well-prepared and confident in their understanding of education. The educators will become more competent because of the emphasis on this policy.

1.1 Research Background

The ability to judge the quality of TVET educators is based on their competence. TVET educator competency is defined as the combination of abilities, knowledge, attitudes, values, and respect that are deemed essential for professional advancement (Per Andersson, 2015). To integrate information, abilities, and attitudes into the learning experience, competencies suited to the job function are necessary (Rod Ford, 2015). Malaysian educational institutions are always competing for students, TVET educators' professionalism, credentials, and general abilities are an issue in the country's educator training. They must have a high level of experience as well as a broad range of knowledge and skills. They must be prepared to deal with and embrace a wide range of instructional approaches adjustments (Zuraidah Abdullah, 2019). However, Junita Sulaiman (2018) claims that there are still concerns with teacher professionalism that is not being addressed, which might have detrimental influence on national education.

According to researchers, this problem originates from teachers' lack of knowledge of their function as curriculum and co-curriculum implementers. According to Ismail et al (2018), there are six main challenges faced by vocational educators: (1) educators are not interested or less interested in teaching the prescribed skills subjects; (2) instructors lack the qualifications, skills, and industry experience required as TVET educators; (3) educators lack the qualifications, skills, and industry experience required as TVET educators; and (4) educators lack the qualifications, skills, and industry experience required as TVET educators. (3) meet the needs of students with low academic grades who require extra teaching effort and high emotional intelligence; (4) the difficulty of pursuing professional courses due to limited budget allocation, rotation system, and heavy workload; (5) otherwise, the difficulty of writing an article; and (6) the difficulty of using English as a medium of communication. According to Paryono (2015), new teachers hired from colleges and universities lack industrial experience, which makes it difficult to impart work culture to pupils. Therefore, Hanapi (2015) also said that every educator in institutions of higher learning should be given incentive training and continuing education courses to improve their level of skills and competencies in line with technological changes and the addition of new information.

1.2 Research Objectives

The objectives of this study are to:

1. determine the teaching competencies of TVET educators.
2. identify challenges in implementing TVET teaching.
3. identify motivation in implementing TVET teaching.

2. Methodology

The research methodology is based on outline of how research concept needs to be conducted. The techniques used will analyze the information in the research topic. Research methods are the strategies, processes or techniques utilized in the collection of data or evidence for analysis to uncover new information or create better understanding of a topic. The research focus on quantitative approach and questionnaire as data information collected. This study was conducted to identify the perceptions of

competencies, challenges, and motivations TVET educators in vocational colleges in implementing TVET teaching. This methodological technique seeks to meet the study's stated objectives. The data for this study was gathered utilizing procedures from respondents who took part in the survey. As a result, an appropriate methodological approach can assist assure the findings' originality and correctness.

2.1 Research design and procedure

A survey research design with quantitative approach applied as research design with set of questionnaires used as data collection instrument. Various parts of this process were ethically observed, the first of which is identifying research issues and developing research objectives. Two Vocational Colleges were selected as location to conduct a survey. There are 76 TVET educators as respondents involved the obtained data were then analyzed using SPSS to determine mean scores and standard deviations; depending on the study's findings, the researcher offer suggestions and conclude. To gather more effective and accurate information and data for this investigation, quantitative analysis was applied.

2.2 Research Instrument

Instrumentation is the process of providing data collection tools. The researcher chose an online questionnaire as a research method to collect data for this study. The researcher utilizes SPSS software to illustrate the frequency and proportion of respondents' feedback obtained in a descriptive quantitative study.

3. Results and discussion

This chapter describes the data analysis procedure as well as the study findings obtained through the process of receiving responses from a questionnaire. The collected data were processed to determine the frequency, percentage, and mean values, as well as the standard score deviation. The primary goal of this data analysis has led to the identification of competencies, challenges, and motivations TVET educators in vocational colleges in implementation of TVET teaching.

3.1 Demographics of Respondents

The participants in this study are 76 educators from two vocational institutions in the state of Johor. To analysis consits number of respondents, working experience, field of teaching based on program offered, academic qualification and skills certificate qualification. Table 1 to 5 are the demography information.

Table 1:Number of Respondents

Institution	Number	Percentage %
Vocational College A	44	57.9
Vocational College B	32	42.1
Total	**76**	**100**

Table 2: Analysis of Respondents' Working Experience

Work Experience	Number	Percentage %
5 Years and under	8	18.4
6-10 Years	1	15.8
11-15 Years	3	19.7
16-20 Years	10	30.3
21 Years and Above	12	15.8
Total	**34**	**100**

Table 3: Academic Qualification

Academic Achievement	Number	Percentage %
Degree	75	98.7

Master	1	1.3
Total	**76**	**100**

Table 4: Course Taught

Program	Number	Percentage %
Construction Technology	12	15.8
Welding Technology	13	17.1
Automotive Technology	16	21.1
Electrical Technology	10	13.2
Electronic Technology	11	14.5
Industrial Machining Technology	5	6.6
Air Conditioning and Cooling Technology	4	5.3
Single Phase Electrical Installation and Maintenance	5	6.6
Total	**76**	**100**

Table 5: Skills Certificate Qualification

Skills Certificate	Number	Percentage %
Certificate Level 2	2	2.6
Certificate Level 3	16	21.1
Diploma Level 4	13	17.1
Advanced Diploma Level 5	45	59.2
Total	**76**	**100**

3.2 Knowledge, Skills, Challenges, and Motivation of internal educators' implementation of TVET teaching in Vocational Colleges

The questionnaire distributed to 76 Vocational College educators had 47 items. The 47 items of this questionnaire are divided into 4 main aspects, namely the knowledge aspect, the skills aspect, the challenge aspect, and the instructor motivation aspect. This questionnaire is to identify competencies, challenges, and motivations in the implementation of TVET teaching in Vocational Colleges.

3.3 Aspects of Knowledge

A total of 14 items have been developed to assess the knowledge aspects of Vocational College educators. Table 6 shows the items and data obtained through questionnaires as well as data analysis. The results of a study conducted on 76 TVET instructors in two Vocational Colleges show that the instructors have a high level of knowledge in the implementation of TVET teaching in Vocational Colleges. The highest mean score indicated that the instructors were willing to share the knowledge they had to colleagues. Refers to the lowest mean value score, the instructor performs an induction set that is appropriate for students in a subject. Induction set is the relationship of a thing, idea, approach, technique, activity process or resource to attract students to be ready to face learning (Hasniza, 2011). Where this needs to be improved by the instructors because with 5 minutes the induction set can attract students to continue learning because without interest, students will be lazy and not focus on learning which will make teaching sessions less effective.

Table 6: TVET Educators' Knowledge

Item	Item Statement	Mean Score	Standard Deviation
A1	I gathered initial information about the course requirements I needed in preparation for teaching a new subject	4.62	0.489
A2	I am knowledgeable in applying demonstration teaching methods during a practical based learning environment	4.66	0.478

A3	I am knowledgeable in facilitating students during a practice-based learning environment	4.57	0.525
A4	I am always looking for expert opinions to improve my knowledge	4.68	0.496
A5	I can apply my current knowledge through the process of teaching and facilitation	4.63	0.512
A6	I am willing to share my knowledge with my colleagues	4.79	0.410
A7	I am knowledgeable in using a variety of practical teaching and learning strategies to stimulate student interest	4.59	0.495
A8	I do a set of inductions that are appropriate for students in a subject	4.45	0.598
A9	I use the Teaching Aids Tool (ABBM) during teaching and learning sessions (PdP)	4.49	0.529
A10	I create questioning techniques that encourage students to think high-level during PdP activities	4.53	0.528
A11	I am skilled at generating ideas to solve problems that occur during PdP	4.54	0.528
A12	I make assessments to students according to their ability and based on the curriculum set by the College	4.55	0.575
A13	I am knowledgeable in using a variety of practical teaching and learning strategies to stimulate student interest	4.54	0.528
A14	I know the evaluation process in PdP	4.67	0.473
	Mean Score	4.59	0.5117

3.4 Aspects of Skills

A total of 14 items have been developed to assess the skills aspects of Vocational College educators. Table 7 shows the items and data obtained through questionnaires as well as data analysis. Based on the study conducted, the researcher found that the highest score value for the aspect of skills competence is (4.75%) that is, the teaching staff is always ready to improve skills. Then, the lowest mean score value is (4.09%) that the instructors always face the latest technological changes where according to the analysis conducted, a total of 19 (25%) of the instructors said they are not sure that they face the latest technological changes or not. This may be because current technologies are evolving so rapidly that demand quick and fast changes make them unable to keep up with such technological changes. The field of education is a field that needs to move in line with the development of the IR4.0 revolution. With the development of IR4.0 so far ahead, the need for manpower must meet the needs of the industry (Ahmad & Abdul Halim, 2019). Where, the teaching staff must always be aware and competitive about the latest technological changes that occur from time to time.

Table 7: TVET Educators' Skills

Item	Item Statement	Mean Score	Standard Deviation
B1	I need a clear procedure for operating new machines/equipment in the workshop before the new semester begins	4.57	0.806
B2	I can operate equipment in a workshop	4.58	0.497
B3	I need training related to the use of machines/equipment available in the workshop in preparation for practical teaching	4.51	0.739
B4	I am proficient in applying Standard Operating Procedure (SOP) and operating equipment	4.58	0.497
B5	I am creative in teaching practical based subjects	4.33	0.700
B6	I am adept at explaining learning content related to skills practice	4.46	0.528
B7	I have the skills to apply safety practices in the workshop	4.61	0.492

B8	I am always ready to improve my skills	4.75	0.436
B9	I am always eager to improve my skills	4.71	0.485
B10	I was able to diversify my teaching strategies to students to understand the learning content	4.57	0.550
B11	I can interact with my students by imparting the hands-on knowledge I know	4.70	0.462
B12	I am always facing the latest technological changes	4.09	0.786
B13	The skills in the field that I have can help students to understand the concepts and practices of learning	4.57	0.550
B14	Pandemics made me think creatively in helping students understand practical and theoretical learning	4.42	0.638
	Mean Score	4.53	0.583

3.5 Aspects of Challenges

A total of 10 items have been developed to assess the challenging aspects of Vocational College educators. Table 8 shows the items and data obtained through questionnaires as well as data analysis. The analysis shows that the highest mean score is (4.42%) instructors need training to strengthen knowledge related to the implementation of curriculum and co-curriculum. Curriculum and co-curriculum changes and reforms are not something new in the education system as they aim to improve the quality of education and student performance in learning (Husaini, et al., 2018). Therefore, it is appropriate for teachers to say that they need training to strengthen knowledge related to curriculum and co-curriculum. Meanwhile, the lowest mean score value is (2.14%) instructors have problems in conveying accurate information related to learning to students when using English. A low percentage value means that only a few teachers have problems in the use of English in the delivery of information.

Table 8: Challenges Faced

Item	Item Statement	Mean Score	Standard Deviation
C1	Technical and Vocational Education is constantly changing in terms of its curriculum making it difficult for me to focus on which ones should be prioritized	4.17	0.870
C2	I needed the machine skills training available in the workshop to face the challenges of practical teaching in the College	4.34	0.825
C3	I need a pedagogy workshop to hone my soft skills	4.29	0.964
C4	I need training in classroom operation	4.24	1.031
C5	As an implementer of curriculum and co-curriculum in the College, I need the training to strengthen my knowledge related to the subject	4.42	0.821
C6	The location of the competency improvement course is run away from home	2.89	0.858
C7	The duration of the course was so long it caused me to lose focus	2.51	1.077
C8	I have trouble conveying accurate information related to learning to students when using English	2.14	1.283
C9	I felt enough of the competence to cause me to be less motivated to take the course	3.84	1.071
	Mean Score	3.65	0.978

3.6 Aspects of Motivation

A total of 11 items were developed to assess the motivational aspects of Vocational College educators. Table 9 shows the items and data obtained through questionnaires as well as data analysis. Based on the study conducted, the researcher found that the highest mean score was found in two question items, namely (4.71%) the instructors were satisfied when they could make students

understand what they were teaching during teaching session. Instructors also want to be the best example to their students. Through the data analyzed, the researcher felt that both statements were appropriate because student excellence influenced the happiness of the instructor. Meanwhile, the lowest mean score for the challenge aspect was (2.49%) the relatively long period of industrial training made the instructors less interested in following it. A low percentage value means that very few instructors are less interested in long periods of industrial training. However, instructors should be motivated to undergo industrial training with a set period because researchers believe that industrial training or any competency improvement course is very important in improving knowledge for the implementation of TVET teaching in Vocational Colleges.

Table 9: TVET Educators' Motivation

Item	Item Statement	Mean Score	Standard Deviation
D1	I will prepare related to the subject that I will teach	4.66	0.505
D2	I am satisfied when I can make students understand what I teach during teaching and learning session	4.71	0.485
D3	I am excited that students will be able to apply theoretical learning to practical learning	4.70	0.490
D4	I want to be the best example to students	4.71	.485
D5	To improve my knowledge and skills in technology, I am ready to be sent on a course in the industry	4.59	0.751
D6	Seeing students dislike the subject of theory makes me eager to vary my teaching methods and techniques	4.58	0.638
D7	I need motivation from other teachers to equally educate students	4.51	0.825
D8	I need encouragement from other teachers to equally educate students	4.50	0.825
D9	The relatively long period of industrial training made me a little less interested in pursuing it	2.49	1.137
D10	A harmonious work atmosphere helps me get motivated in doing a good job	4.63	0.512
	Mean Score	4.41	0.665

4. Conclusion

To prepare for the 21st century, an educator must strive to make the education system able to produce a generation that is knowledgeable, skilled, able to think creatively and critically and able to communicate well. As has been analyzed in this study, TVET instructors have a good level of knowledge. In this regard, instructors must constantly generate new knowledge and use knowledge to solve problems. Content-based teaching alone will make the instructor outdated as many facts will become irrelevant. Therefore, the knowledge aspect needs to change to and in line with the existing skills to solve the problem. Every educator needs to master teaching skills. Teaching skills are the focus of this study where it looks in terms of instructor skills to operate the classroom, instructor skills to operate machines and equipment in the workshop, skills to explain the content of learning and skills to apply Standard Operating Procedure (SOP). This aspect of skills is an important thing for an educator to guide students to be proficient in any skills related to learning. Furthermore, TVET instructors also face challenges and difficulties in adapting to the advances of the globalization era especially in the use of more complex equipment and machines in teaching sessions. Therefore, today's teaching staff must equip themselves with information that is comparable to today's growth. An educator's motivation is often associated with the teacher's attitude towards his or her career. It is also seen as the perseverance and desire of educators in the process of teaching and learning within the institutional environment. Apart from the involvement of the instructor in the teaching and learning process, motivation usually includes the sensitivity of the teacher in controlling the discipline of the students. Thus, the motivation

of the instructor has a profound effect on an activity in the institution. As conclusion, the researcher concludes that TVET instructors have good aspects of knowledge and skills competencies. TVET educators are also able to overcome the challenges ahead quite well and they also have a high rate of motivation in the implementation of teaching. Therefore, it is hoped that the findings and recommendations of the analysis presented in this study can provide some input and contribution to those involved in improving the competencies of TVET instructors.

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