International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 3 Issue 8 (March 2021) PP. 211-225
DOI: 10.35631/IJMOE.380017

INTERNATIONAL JOURNAL OF MODERN EDUCATION (IJMOE)
www.ijmoe.com

CONTINUOUS QUALITY IMPROVEMENT (CQI) PRACTICE IN VOCATIONAL COLLEGES

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Article Info:

Article history:
Received date: 21.02.2021
Revised date: 01.02.2021
Accepted date: 11.03.2021
Published date: 15.03.2021

To cite this document:

Ab Latif, N. A., & Mohd Nor, M. Y. (2021). Continuous Quality Improvement (CQI) Practice in Vocational Colleges. Journal of Modern Education, 3(8), 211-225.

DOI: 10.35631/IJMOE.380017

Abstract:

Continuous quality improvement (CQI) is an important element in quality management. This is because CQI is a key factor in improving the quality of education and ensuring that improvements in teaching and learning activities are continuously implemented. The implementation of CQI in Vocational Colleges (VCs) is increasingly being carried out in line with the application of the outcome-based learning (OBE) approach. However, reports from the board of accreditation showed differences in CQI practices for several programs under the same institution. Thus, this study can give a clear picture of CQI practice in VCs. This study was conducted to identify CQI practices in VCs and make comparisons of practice based on demographic factors namely gender, age, and teaching field. This survey-based study used questionnaires as a research instrument. The respondents of the study consisted of 87 VCs lecturers in the states of Selangor and Kuala Lumpur. Descriptive and inferential statistical analysis was used to attain the practice level and make comparisons on demographic factors. The findings of the study found that the practice of CQI in VCs was at a high level. However, there were significant differences based on demographic factors for the age group in the dimensions of customer focus and teamwork. This study could provide input to the Vocational Educational and Training Department (BPLTV) on the practice of CQI in VCs. With this input, actions and improvement measures can be planned and implemented to improve VCs. Therefore, it is hoped that this study could be a platform for improvement in VCs quality management.

Keywords:

Quality, Continuous Quality Improvement, Improvement, Vocational Colleges

International Journal of Modern Education
IJMOE
EISSN: 2637-0905
Volume 3 Issue 8 (March 2021) PP. 211-225
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Introduction

Vocational Colleges (VCs) are developed with the aim of producing knowledgeable and highly skilled human capital in the field of technical and vocational education and training (TVET) (Education Policy Planning and Research Division, 2017). The implementation of the vocational education transformation in 2012 has rebranded Vocational Secondary Schools to Vocational Colleges. Through this transformation, a new curriculum, the Vocational College Standard Curriculum (KSKV) has been introduced and the outcome-based learning (OBE) approach has been adopted to meet the accreditation requirements for the recognition of diploma programs at VCs (Mohd Amiruddin & Muhd Khaizer, 2018).

OBE is a student-centered learning method and focuses on the outcomes that can be achieved at the end of learning. There are four cyclical processes in the formulation of an OBE-based curriculum, namely the elements of planning, implementation, evaluation and continuous quality improvement (CQI). CQI elements should be present in every academic program offered, in which improvement will involve all elements in the program objectives, program learning outcomes and course learning. Although the CQI process is the last element in OBE, it is important to improve and strengthen the quality of the programs offered (Zainal Abidin Sayadi, 2012).

Continuous quality improvement (CQI) is stated as a key feature in quality management (O'Mahony & Garavan, 2012; Temponi, 2005) and is an effort to continuously improve the quality of the program (Mua'azam Mohamad, Yahya Don, & Muhamad Dzahir Kasa, 2017) . This is because CQI is a key factor in improving the quality of education and ensuring improvements in teaching and learning activities are continuously implemented (Norbahiah Misr, Siti Salasiah, Hafizah Husain, & Wan Mimi Diyana, 2011). In addition, CQI has been identified to produce kaizen which is to improve work through a series of continuous small changes (Arcaro, 1995).

Furthermore, with the implementation of the CQI, continuous evaluation and improvement can be done on the work process in the school, so that the performance of the organization improves (Noer, 2019). Due to its importance in ensuring the quality of students, study programs, and the improvement of school organization, CQI practices needs to be given attention and focus (Zuraini Dahari, Umi Kalthum Ngah, & Norizah Mohamad, 2012). However, several previous studies have found that CQI was given less attention Zuhaida Raya & Abdul Rasid Abd Razzaq, 2018) and was not fully implemented (Lyssa Daud et al., 2020).

For Vocational Colleges, CQI is an important process not only for the improvement of schools but also for obtaining accreditation from the board of accreditation in Malaysia. However, based on audits from board of accreditation on programs conducted in VCs throughout Malaysia, CQI has not been fully implemented in KV and it is found that no effective methods or strategies are implemented in conducting CQI assessments (Mohd Amiruddin & Muhd Khaizer, 2018).

In addition, in the Malaysia Board of Technologists (MBOT) full accreditation report on several programs at VCs, stated that CQI practices are still in the early stages and the department of quality needs to streamline the CQI process for program sustainability (Malaysia Board Of Technologists, 2020c, 2020b). There are also contradictions in the MBOT report for different programs in terms of CQI. On one hand, there are programs that are reported to

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comply with CQI practices and on the other hands, there are programs that do not comply even when they are under the same institutions (Malaysia Board Of Technologists, 2020a, 2020d).

Therefore, this study is necessary and suitable to be implemented in order to identify the level of practice and get a clear picture of CQI practice for VCs. Dana's (2010) report has identified 5 dimensions in CQI namely internal customer focus and teamwork, understanding of processes, use of data in decision making, understanding of quality and customer needs and management ability to lead qualities. Dimensions of management ability to lead quality are identified based on issues in behavior change theory. Whereas, the other four dimensions are based on the S-P Model in TQM by Saunders and Preston (1994). Therefore, this study will identify the level of CQI practice among VCs lecturers based on the five aspects stated by Dana.

This study aims to identify CQI practices in VCs and the most dominant dimensions in CQI practice in VCs from the perceptions of VC lecturers. In addition, this study will compare the CQI practices of VC lecturers based on demographic factors of gender, age and teaching fields of VCs lecturers. More specifically, this study has 3 main objectives, namely:

i) Identify the level of continuous quality improvement practices in Vocational Colleges.
ii) Identify the most dominant dimensions in the continuous quality improvement practice in Vocational Colleges.
iii) Identify differences in the continuous quality improvement practice based on the Vocational College lecturers' demographic factors (gender, age and field of teaching).

This article will further discuss the literature review related to the implementation of continuous quality improvement practices. It will be followed by research methodology, research findings and discussion of research findings. Finally, the implications, limitations and recommendations of future studies will also be stated.

Literature Review

The main concern in educational institutions today is to ensure that a high quality educational process can be delivered (Zarate-garcia & Monterrey, 2020). There are four needs in applying quality in the school context namely moral, environmental, existence and accountability (West-Burnham, 2009). In addition, a quality education system can help school management cope with the changes of globalization and can produce a competitive workforce(Yahya Don & Siti Nor Ismail, 2015; Zuhaida Raya & Abdul Rasid Abd Razzaq, 2018). Therefore, a comprehensive quality management system has begun to become a practice in the management of educational organizations.

Diversity in pillars or elements of quality management has been expressed by researchers over the past three decades. However, the most commonly used elements are customer focus and continuous improvement (Arcaro, 1995; Bonstingl, 1992). The elements in quality management continue to be developed by the latest researchers and the elements of customer focus and continuous improvement are still stated as pillars in quality management (Goetsch & Davis, 2014). This shows that customer focus and continuous improvement are important elements in quality management. This is because customer focus and continuous improvement have significant implications for the teaching and learning (Siti Noor Ismail, 2020) and

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continuous improvement is an important factor in continuously improving program quality (Mua'azam Mohamad, 2020).

Continuous quality improvement is the main goal of every organization that adopts a quality management system (Arcaro, 1995; Sallis, 2002). Although it is often defined as quality, CQI has various definitions stated by researchers over the past two decades. CQI is a continuous culture and practice of work improvement that requires all employees to work together (Arcaro, 1995; Bhuiyan & Baghel, 2005). It is an improvement process that starts from identifying the problem until the problem is solved effectively (Wilkens & London, 2006). In the context of education, it can be defined as a process of meeting the needs and expectations of customers and stakeholders as well as evaluating the effectiveness and quality of the program (Temponi, 2005).

In Malaysian educational institutions, CQI is defined as a cyclical process to continuously monitor and improve quality (Malaysia Qualification Agency, 2014; Tshai, Ho, Yap, & Ng, 2014). CQI is also seen as a systematic quality improvement strategy planned using strategic plans and actions(Malaysia Qualification Agency, 2014; PKPA, 1992). This CQI process needs the involvement of all parties in the organization and uses the available resources optimally in an effort to improve quality(PKPA, 1992).

The CQI dimensions that were studied in this research are namely internal customer focus and teamwork, understanding of processes, use of data in decision making, understanding of quality and customer needs and management ability to lead qualities According to Saunders and Preston (1994), understanding customer needs is a necessity for improvement to occur clearly. This understanding needs to exist in individuals and groups in the organizations so that the improvements process become more effective. Reward-supported teamwork can overcome obstacles and complexities in an organization (Dana, 2010). Meanwhile, understanding the processes in the organization is necessary so that the impact of change can be assessed and predicted (Saunders & Preston, 1994). In this study, the understanding of the process is referred to the organization that understands about the process of quality improvement. Where every lecturer needs to understand how the process of continuous quality improvement is carried out in their organization.

Moreover, the use of data in every organizational process is necessary to find the real root cause of the problem and discover new methods in solving the problem (Joiner & Scholtes, 1988). In this study the use of data in decision making referred to how well the data and information obtained are used, measured and analyzed to make improvements and solve problems. According to Saunders and Preston (1994), understanding customer needs can make improvement effort clearer. In this study the understanding of quality and customer needs refers to the extent to which lecturers understand the importance of quality that is carried out in the organization. In addition, it also refers to the extent to which lecturers understand the needs of their clients (students, parents and other stakeholders). Saunders and Preston (1994) also stated that, to produce quality in an organization, management commitment is important and required to push the organizations ahead. In this study, management's ability to lead quality refers to top management's ability to bring about change. It also refers to the ability of leaders and top management to perform their work in a quality manner and their ability to guide lecturers and organizations towards a quality environment.

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Studies on quality practice and CQI have been conducted in various educational institutions in Malaysia. These studies have provided various input on the level of CQI practice in Malaysian educational institutions (Lyssa Daud et al., 2020; Mua'azam Mohamad, 2019; Zuhaida Raya & Abdul Rasid Abd Razzaq, 2018). For example, a study in national schools found that CQI received less attention from school quality management than other quality dimensions (Zuhaida Raya & Abdul Rasid Abd Razzaq, 2018). Meanwhile, the implementation of CQI in educational institutions of Mara High Skills College is also not fully carried out and were at the monitoring level only (Lyssa Daud et al., 2020). A study conducted in religious schools has found that the level of CQI practice is at a high level for each dimension (Mua'azam Mohamad, 2019). Thus, these diverse findings open the spaces for this study to be conducted in other organizations.

Methodology

This study was a quantitative study in the form of survey to identify continuous quality improvement practices in VCs. The respondents consisted of 87 Vocational College lecturers in Selangor and Kuala Lumpur. Data were obtained using a questionnaire instrument that was answered online using a simple random sampling method.

The questionnaire had 2 parts, namely, Part A to obtain the demographic. Meanwhile Part B is a questionnaire to identify the level of CQI practices, which was adapted and modified from Dana (2010). The questionnaire, which was constructed by Dana (2010) was based on issues arising from behavior change theory and from S-P TQM Model by Saunders and Preston (1994). Part B of the questionnaire had 32 questions and used a 5-point Likert Scale. The questionnaire on Part B are consists of 5 dimensions in CQI as shown in Table 1.

Table 1: Sample of Questionnaires based on Dimensions of CQI.

Dimensions	Total question	Sample of Questions
Customer Focus and Teamwork	No 1 to 10 (10 Questions)	1. I know what is expected of me at work. 2. We are encouraged to work with lecturers in other departments to solve problems. 3. Overall, the leaders in this college care about me.
Understanding of Processes	No 11 to 15 (5 Questions)	1. When something goes wrong, we look at processes rather than blaming people. 2. The work assignments are well planned in my college. 3. Overall, I am motivated to find ways to improve the way I do my work.
Use of Data in Decision Making	No 18 to 21 (6 Questions)	1. I know how to analyse (review) the quality of my work to see if changes are needed. 2. We usually study the cause of problems before making a change. 3. Overall, our use of information helps us improve the way we do our work.
Understanding of Quality and Customer Needs	No 22 to 27 (6 Questions)	1. Quality improvement is a sincere effort at this facility rather than just talk.

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		2. I understand that continuous improvement is needed to increase my work performance.
Management Ability to Lead Qualities	No 28 to 32 (5 Questions)	1. Top management are able to make their own decisions rather than depending on people outside of our organizations. 2. Top management at this college set a good example in the execution of quality of work. 3. Overall, the top managements can lead us to higher levels of quality performance.

Data were analyzed using SPSS 22.0 software. Descriptive statistical analysis such as mean, frequency and percentage were used to determine the level of CQI practice while inferential statistics of two independent sample T-test and one-way ANOVA were used to identify practice comparisons based on demographic factors. The Cronbach's Alpha test was conducted to analyze the reliability of the items. The test results found that the Cronbach's Alpha value for the five dimensions of CQI practice was high, ranging from 0.79 to 0.891. An alpha value above 0.7 indicated a consistent instrument and the instrument had a good level of reliability (Nunnally & Bernstein, 1994).

To identify the level of CQI practice in VCs, the average mean score is divided into five levels, namely very low, low, medium, high and very high based on the interpretation of scores by Alias Baba (1999) as shown in Table 2.

Table 2: Mean Score Interpretation

Mean Score	Mean Score Interpretation
1.00 to 1.80	Very low
1.81 to 2.60	Low
2.61 to 3.40	Moderate
3.41 to 4.20	High
4.21 to 5.00	Very High

Findings

Table 3 showed the profile of respondents consisting of 87 Vocational College teachers in the state of Selangor and Kuala Lumpur. Based on Table 3, it was found that 41 respondents (47.1%) were male while 46 respondents (52.9%) were female. In addition, a total of 11 respondents (12.6%) were in the age group of 21 to 30 years, 31 respondents (35.6%) were in the age group of 31 to 40 years, 26 respondents (29.9%) were in the age group of 41 to 50 years and 19 respondents (21%) were in the age group of 51 to 60 years. There were 20 respondents (23%) teaching in the academic field and the rest, namely 67 respondents (77%) teaching in the vocational field in the VCs.

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Table 3: Profile of Study Respondents

Demographic	Frequency	Percentage
Gender		
Male	41	47.1
Female	46	52.9
Age		
21 - 30 years old	11	12.6
31 - 40 years old	31	35.6
41 - 50 years old	26	29.9
51 - 60 years old	19	21.8
Field of Teaching		
Academic	20	23.0
Vocational	67	77.0
Total	**87**	**100**

The Level of Continuous Quality Improvement Practice

To obtain the level of continuous quality improvement practice, a descriptive analysis was conducted involving frequency, percentage, mean and standard deviation for the five dimensions in CQI practice. The results of the descriptive analysis of the dimensions in CQI practice were shown in Table 4.

Table 4: The Levels of Continuous Quality Improvement (CQI) Practice

No	Dimensions in CQI	Mean	SD	Levels
1	Focus on internal customers and teamwork	3.97	0.551	High
2	An understanding of the process	3.94	0.599	High
3	Use of data in decision making	4.05	0.474	High
4	Understanding of quality and customer needs	4.27	0.463	Very High
5	Management abilities to lead quality	3.88	0.738	High
CQI Practices		**4.02**	**0.482**	**High**

Descriptive statistical analysis was carried out to obtain the mean score for CQI practice and the five dimensions in CQI. Table 4 showed that overall CQI practice in Vocational Colleges was at a high level with M = 4.02, SD=0.481. The analysis also found that the dimension of understanding about quality and customer needs was at a very high level (M = 4.27, SD = 0.463). This indicated that this dimension was most often practiced by the respondents. This was followed by the dimensions of use of data in decision making (M = 4.05, SD = 0.474) and the dimensions of focus on internal customer and teamwork (M=3.97, SD=0.551). The dimension of understanding about the process also recorded a high level (M = 3.94, SD = 0.559) and finally the dimension of management ability to lead quality (M = 3.88, SD = 0.738) which also recorded a high score.

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EISSN: 2637-0905
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The results of the analysis also showed that the most dominant dimension of CQI practice in VCs was the dimension of understanding the quality and needs of customers. This was followed by the dimensions of data usage in decision making, the dimensions of internal customer focus and teamwork, the dimensions of understanding of processes and finally the dimensions of management capabilities to lead quality. The dimension of understanding about quality showed a very high level while the other four dimensions were at a high level.

The Differences in Continuous Quality Improvement Practice Based on Gender.

To obtain the differences in CQI practice and its dimensions between male and female lecturers, t-test of 2 independent samples was conducted. Based on the demographics of the respondents, the number of female lecturers was 46, while the male lecturers were 41. The results of the analysis were shown in Table 5.

Table 5: Two Sample T-Test Based on Gender

Dimension	Gender	Mean	SD	*t* value	*P*
Focus on internal customers and teamwork	Male	4.00	0.659	0.559	0.58
	Female	3.93	0.437		
An understanding of the process	Male	3.94	0.732	0.054	0.956
	Female	3.93	0.458		
Use of Data in Decision Making	Male	4.11	0.546	1.097	0.28
	Female	3.99	0.397		
Understanding About Quality	Male	4.29	0.502	0.468	0.64
	Female	4.25	0.429		
Management Ability to Lead Quality	Male	3.95	0.720	0.902	0.37
	Female	3.81	0.755		
CQI Practice	Male	4.06	0.569	0.714	0.48
	Female	3.99	0.391		

The results of t-test found that overall, there was no significant difference in CQI practice for male and female lecturers with t (85) = 0.714, P> 0.05. The results of the analysis found that there was no significant difference between gender for internal customer focus and teamwork dimension (t (85) = 0.559, P> 0.05), understanding about process dimension (t (85) = 0.054, P> 0.05), usage data in decision making dimension (t (85) = 1.097, P> 0.05), understanding of quality dimension (t (85) = 0.468, P> 0.05) and the management ability to lead quality dimension (t (85) = 0.902, P> 0.05). These findings indicated that male and female lecturers' practice CQI at the same rate for each dimension in CQI.

The Differences in The Continuous Quality Improvement Practice Based on Fields of Teaching

Two independent sample t-tests were used to identify the differences in CQI practices between lecturers in academic and vocational teaching fields in VCs. Based on the demographics of the

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EISSN: 2637-0905
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respondents, the number of lecturers in the academic field were 20, while the lecturers in the vocational field were 67 people. The results of the analysis were showed in Table 6.

Table 6: Two Samples T-Test Based on Teaching Fields

Dimension	Fields of Teaching	Mean	SD	t value	P
Focus on internal customers and teamwork	Academic	3.81	0.589	-1.528	0.13
	Vocational	4.02	0.534		
An understanding of the process	Academic	3.9	0.669	-0.360	0.72
	Vocational	3.96	0.581		
Use of Data in Decision Making	Academic	3.98	0.559	-0.713	0.48
	Vocational	4.07	0.448		
Understanding About Quality	Academic	4.16	0.568	-1.255	0.21
	Vocational	4.31	0.426		
Management Ability to Lead Quality	Academic	3.73	0.706	-1.039	0.30
	Vocational	3.93	0.747		
CQI Practices	Academic	3.92	0.556	-1.138	0.26
	Vocational	4.05	0.457		

Overall, the findings in Table 6 showed that there was no significant difference in CQI practice for lecturers in academic and vocational teaching fields with t (85) = - 1.138, P> 0.05. The results of the analysis also found that there was no significant difference between the teaching fields for the dimension of internal customer focus and teamwork (t (85) = - 1.528, P> 0.05), dimension of understanding the process t (85) = - 0.360, P> 0.05), dimension of data usage in decision making (t (85) = - 0.713, P> 0.05), dimension of understanding of quality (t (85) = - 1.255, P> 0.05) and for dimension of management ability to lead quality (t (85)) = - 1.039, P> 0.05). These findings showed that that lecturers in the field of academic and vocational teaching practiced CQI at the same level for each dimension in CQI.

The Differences in Continuous Quality Improvement Practice Based on Age.

One-way ANOVA test was used to identify the differences in CQI practices between the age groups of lecturers in Vocational Colleges. The results of the analysis were shown in Table 7.

Table 7 One-Way ANOVA Test Based on Age Groups

Dimension	Age Groups	Mean	SD	F Value	P
Focus on internal customers and teamwork	21 to 30 years old	3.77	0.377	2.98	.036
	31 to 40 years old	3.84	0.555		
	41 to 50 years old	4.03	0.621		
	51 to 60 years old	4.25	0.426		
An understanding of the process	21 to 30 years old	3.80	0.419	0.79	.505

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EISSN: 2637-0905
IJMOE
Volume 3 Issue 8 (March 2021) PP. 211-225
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	31 to 40 years old	3.87	0.538		
	41 to 50 years old	3.98	0.691		
	51 to 60 years old	4.09	0.651		
Use of Data in Decision Making	21 to 30 years old	3.94	0.382	1.94	.129
	31 to 40 years old	3.96	0.428		
	41 to 50 years old	4.05	0.527		
	51 to 60 years old	4.26	0.479		
Understanding About Quality	21 to 30 years old	4.06	0.417	1.05	.376
	31 to 40 years old	4.28	0.409		
	41 to 50 years old	4.27	0.537		
	51 to 60 years old	4.37	0.460		
Management Ability to Lead Quality	21 to 30 years old	3.75	0.881	0.21	.891
	31 to 40 years old	3.90	0.655		
	41 to 50 years old	3.85	0.701		
	51 to 60 years old	3.96	0.868		
CQI Practice	21 to 30 years old	3.86	0.411	1.28	.287
	31 to 40 years old	3.97	0.413		
	41 to 50 years old	4.032	0.553		
	51 to 60 years old	4.19	0.508		

The results of one-way ANOVA test found that there was no significant difference in the CQI practice of VC lecturers based on age factor with F (3,83) = 1.28, p> 0.05. However, when compared between the four age groups of lecturers with the five dimensions in CQI, there was a significant difference for the dimension of internal customer focus and teamwork with F (3,83) = 2.98, p <0.05. In addition, the results of the study found that there was no significant difference based on age group for the dimension of understanding of the process F (3,83) = 0.79, p> 0.05, the dimension of data use in decision making F (3,83) = 1.94, p> 0.05, the dimension of understanding the quality of F (3,83) = 1.05, p> 0.05 and for the dimension of management ability to lead quality of F (3.83) = 0.21, p> 0.05.

Post-hoc test using LSD for internal customer focus and teamwork dimension in Table 8 showed that the mean score of the age group between 51 to 60 (M = 4.25, SD = 0.426) was greater than the mean score of the age group between 21 to 30 (M = 3.77, SD = 0.377) with P=0.02. Whereas the mean score of the age group between 51 to 60 years was greater than the mean score of the age group between 31 to 40 (M = 3.84, SD = 0.555) with a value of P = 0.009. However, there was no significant difference for the age group of 51 to 60 years old with a mean score of the age group between 41 to 50 (M = 4.00, SP = 0.621) with a value of P = 0.126. Therefore, based on the analysis, it was found that lecturers aged 41 and above preferred to adopt the dimension of internal customer focus and teamwork in CQI.

Table 8: Post Hoc LSD Test for Comparative Age Group for the Dimensions of Internal Customer Focus and Teamwork

Groups Comparison	Mean Differences	P
51 to 60 and 21 to 30 years old	0.479	0.02
51 to 60 and 31 to 40 years old	0.417	0.09
51 to 60 and 41 to 50 years old	0.249	0.126

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Discussion

The study was conducted to identify the level of continuous quality improvement practice in VCs, the most dominant CQI dimension in VCs and the differences in CQI practices according to demographic factors namely gender, teaching fields and age of lecturers.

The results of this study can provide information and insights to vocational division and the MOE on CQI practices in VC. In addition, this study can test the suitability of the questionnaire developed by Dana (2010) on the context of Malaysian education system.

Summary of Findings

Overall, the results of this study showed that the practice of CQI in VCs were at a high level. Although the direct comparison to previous studies (Mua'azam Mohamad, 2019; Zuhaida Raya & Abdul Rasid Abd Razzaq, 2018) may not be accurate due to the difference subject matter, these findings also found that the practice of CQI in their study institutions was at a high level. However, Zuhaida and Abdul Rasid (2018) found that the practice of CQI was given less attention.

In addition, the results of this quantitative study showed that the practice of CQI in terms of internal customer focus and teamwork was at a high level. This gives the impression that VC lecturers were involved in the mission of the organization and support the change initiatives. In addition, the high mean score on questions related to teamwork indicated that respondents' perceptions on the effectiveness of teamwork and team processes at VC were high (Dana, 2010).

Furthermore, the study also found that the dimension of understanding the process and use of data in decision making were at a high level. These findings indicated that the respondents understand that the quality of their work was related to the management of their work processes. The results of the analysis also found that respondents and their organizations integrate the use of data and measurement to support quality improvement and decision making at all levels of the organization.

The results of the study also found that the dimension of understanding about the quality and needs of customers was at a very high level and recorded the highest mean score among other dimensions. Therefore, the dimension of understanding the quality and needs of customers was the most dominant dimension of CQI practice in VC. The comparison with the outcomes of previously studies (Mua'azam Mohamad, 2019) reveals a similar pattern in the outcome of the most dominant dimensions which found that the dimension of understanding about quality was the most frequently practiced compared to other dimensions. This outcome may be due to the impact of the courses and trainings that are often conducted in the school. This showed that courses and trainings conducted have a positive impact on teachers in schools. However, it contradicted with the findings by Rashidah Mokhtar, Safura Adeela Sukiman, Nur Huda Jaafar, and Azizah Abdul Rahman, (2012) that the most frequently practiced dimension was the dimension of understanding the process and the use of data in decision making. One of the main differences between this study and the previous study is the population of study. This study population is VCs lecturers not university lecturers as stated in other studies.

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However, studies had found that the least practiced dimension was the management ability to lead quality. These findings were consistent with the findings by Mua'azam Mohamad (2019) and Rashidah Mokhtar et al., (2012) who found that this dimension had the lowest mean score among other dimensions. This show that, even though there is a difference in the population of the study, top management in education institutions was lacking in the ability to lead quality. However, this dimension still recorded a high mean score, only it was less practiced in the organizations involved. To improve this dimension, Dana (2010) suggested that in the implementation of CQI, first, the college management should review the approach carefully before considering any significant change initiatives. In addition, the involvement of management in CQI management could help improve the aspects of CQI (Rashidah Mokhtar et al., 2012).

Although the results showed a high level of practice for all dimensions and overall level of practice in CQI, the VCs needs to continuously increase the efforts in improving the level of CQI practice to a higher level. Efforts should also be focused to ensure that the practice of CQI could continue to be maintained and become a culture among VCs citizens. Top management needs to be more involved in ensuring that CQI practice continue to be improved. Ongoing training, guidance and monitoring should be provided to VCs staffs so that CQI could be fully understood and appreciated.

The results of this study also found that there was no difference in CQI practice based on the demographic factors of the respondents' gender. This indicated that male and female lecturers practice all five dimensions in CQI at the same level. This finding was contrary to the finding of Mohamad (2019), who found that male teachers practice CQI more than female teachers. In addition, the study also found that there was no significant difference in CQI practice based on teaching field. This showed that academic and vocational lecturers practice all five dimensions in CQI at the same level. These findings illustrate that quality management was practiced in all departments at VCs and information related to quality management was effectively communicated.

In addition, overall, the study also found that there are no significant differences for CQI practice based on age. However, there were significant differences in CQI practice based on age factors for the dimensions of internal customer focus and teamwork. The study found that lecturers aged 41 years and above were more likely to adopt the dimensions of internal customer focus and teamwork within CQI. Logically, this difference occurred because older lecturers were more experienced and more mature and open in dealing with problems. However, focus and training should be given to lecturers aged 41 and under so that they can practice the internal customer focus and teamwork dimensions better.

Implications of Findings

This study has implications for the national education policy through the first shift in the Malaysian Education Development Plan (PPPM) which is to provide equal access to quality education. Among the strategies is that the government will expand access and intensify efforts to improve the quality of educational pathways, starting with vocational education. Therefore, the findings of this study can provide an input on the aspects of CQI that need to be improved so that quality management was well-managed and further improve the quality of education.

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In addition, through the first shift, the ministry will improve the quality of vocational education through various strategies such as improving teacher training. Thus, these findings can help the management plans and provides training and support to VC lecturers in implementing quality management practice and CQI. Indirectly, from this input, actions, and improvement measures can be planned and implemented to improve VCs. Therefore, it is hoped that this study can be a platform for quality management improvement in the VCs.

Suggestions

As this study is limited to VC teachers in the states of Selangor and Kuala Lumpur only, other studies are needed to look at CQI practices in other states and examine other aspects that are not focused in this study. Thus, a comprehensive overview and information on CQI practice can be obtained. Further studies are also expected to make connections between CQI practice with other aspects to see the importance of CQI and factors that influence CQI practice in educational institutions.

Conclusion

In conclusion, CQI is the main thing that needs to be considered in improving the quality of education. Findings from this study found that the practice of CQI in VC is at a high level and the study also found that lecturers aged 41 years and above practice CQI in terms of customer focus and teamwork more than the others. Therefore, appropriate measures need to be taken to ensure that CQI continues to be carried out and can be well maintained in the educational institutions. It is hoped that this study can be a platform for quality management improvement in VC.

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