Industrial Collaboration in Vocational Colleges: A Preliminary Study

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ABSTRACT

In recent years, the focus has been on the collaboration between educational institutions and the industry, particularly the technical and vocational education and training (TVET) field. Collaborations between educational institutions and industrial organizations that help propel strategic partnerships are a necessity. Inter-organizational collaborations are important to ensure graduates fulfil the requirements of the industry and the national economy prior to entering the job market. The need to study this topic was due to the growing challenges faced by vocational colleges as one of the newly established TVET educational institutions that prepares skilled graduates. This preliminary study aimed to explore the possibilities and limitations of the collaboration between industrial companies and vocational colleges. An inductive-qualitative approach was deployed with respondents comprising administrators and lecturers from three vocational colleges. Interviews were conducted to identify the level of collaboration between vocational colleges and companies as well as the limitations encountered during the process. Initial findings indicated that collaborations between vocational colleges and the industry or workplace had helped implement On-the-Job Training (OJT) and the National Dual Training System (NDTS). However, the process of securing approval for the Memorandum of Understanding (MOU) faced an obstacle as specified by these three Vocational colleges.

Keywords: Collaboration, Vocational Colleges, Industry, TVET, Educational institutions

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1. Introduction

Collaboration is a process and a structure that organizations use to work together to achieve goals the partners could not achieve individually. Collaboration has identifiable characteristics that are present with varying degrees of complexity and sophistication, thus, creating a continuum of collaboration models. Industrial collaborations are increasingly recognized as a new way of providing vocational education and training for organizations, purposely to produce a highly
competent, skilled and educated work force relevant to the rapid changes in technology and job markets [1, 2]. Industrial collaboration is increasingly perceived as a mechanism to enhance innovation through knowledge exchange [3] and encouraging knowledge and technology exchange [4]. Thus, it has become a 21st century trend for improving student outcome and yet was emphasized in the third strategy of the Vocational Education Strategic Transformation Plan, which refers to expanding access to ensure the quality of vocational education and improve employability. Hence, the Malaysia government continuously promotes and coordinates the quality of education by strengthening industrial collaboration for a better recognition of skills acquired through training and job experience [5]. Meanwhile, changes in vocational education through the transformation program provides an opportunity to produce skilled workers as young as 16 years old (11th Malaysia Plan, 2016-2020), and these changes represent training programs as part of the pre-skill development process [6].

The involvement of educational institutions in collaborations can secure various benefits that lead directly or indirectly to improved student outcomes. [7] demonstrated that collaboration could bridge the gap among industries by improving networking between academia and industries, to create better understanding of each one's needs and identify how to meet these needs through collaboration programs. Collaboration in education can operate in various ways, such as by changing the landscape of learning into practice in a real workplace environment [2]. This approach of learning and teaching requires promoting institution-industry collaborations that bring mutual benefits to both sides. Maizam [6] highlighted that collaboration initiatives are undertaken by TVET agencies for various reasons such as the improvement of research capacities and commercialization potential, improvement of technical skills, reduction in demand and supply mismatches, enhancement of employability skills and the promotion of knowledge transfer between institutions and the community. Since technology advances rapidly in today's workplace, the decision to collaborate is one of the pre-requisites TVET institutions to transform themselves into the high-speed information age, gratify new mutual needs and provide well-trained entry level workers [8].

The development of progressive interactive collaboration between parties will merge experience-based workplaces and systematic theory-based learning in an institution [1]. This development will significantly improve the capacity of skilled workers entering the job market and greatly increase their number; thus, reducing the unemployment rate. Moreover, the quality and skills of human resources are crucial for the success of economic transformations that form the basis for a productive nation [1]. The challenges in developing human capital, particularly skilled workers, can be tackled by using a positive approach [9].

Collaboration can be extremely challenging; however, factors that contribute to the success of a collaborative effort have been well documented and can be built into the structure and process adopted by the respective partners. Collaboration offers important opportunities to address system reform, improvements in students’ achievement as well as teacher preparation and continuous professional development. Vocational colleges are primarily driven to create new knowledge, skills and to educate students, whereas industries focus on promoting valuable knowledge to students that can be leveraged for competitive advantage [10]. Few studies have investigated the nature of the barriers and the factors that might facilitate or inhibit collaboration [11].

Studies by [12] and [13] had highlighted factors that facilitate industrial collaboration are necessity to responsiveness to government policy and strategic institutional policy, reciprocity to
access complementary expertise, efficiency in human capital development, stability in new knowledge and technology and legitimate contributions to the regional or national economy by promoting their skills to employers in the industry. In a collaborative effort, participants have to cooperate by new ways. It is time consuming and the initiative may be seen as an additional burden placed upon them. Both, the institution and industry, that volunteers or is selected to participate through some sort of conversation is more likely to be willing to collaborate. Both parties should have the same clear understanding of the purpose and function of the collaboration and be thoroughly familiar with the agenda of the partnership in order to achieve the stated goals. Hence, the parties involved should determine their degree of involvement in the collaborative process that requires some formal structures such as policies, rules and regulations to assure that expectations are shared and behaviours are consistent with the direction or goals. The collaborative alliances that move beyond the initial stages tend to have effective mechanisms for evaluating their progress and use these evaluations to benefit them.

According to [7], the industry is the primary consumer of TVET graduates which involves in the process of the specific skills required. Therefore, the industry’s participation in the TVET curriculum and workplace training opportunity is the primary way of achieving this. Thus, policies with regards to learning and skills is increasingly concerned with developing the skills and learning of the workforce to increase economic productivity by influencing the industry’s involvement on the vocational education system worldwide. The development of skills in the current workforce is seen as a priority and a response to emerging needs as well as a proactive entity in anticipating future needs in the job market. Many vocational colleges are looking at the role of the industry and are attempting to clarify its contributions, such as new technology transfer [13], that could help increase students’ employability and develop relevant skills supply by engaging the collaboration with industry.

Among the benefits include sharing professional expertise across the industry, ability to cutback costs through sharing techniques and methodologies, innovation through sharing of ideas and enhancing the ability to achieve goals involving both parties [14]. Wohlin et al., [15] stated that the industrial side of the collaboration was the key element in a successful collaboration. For example: buy-in and support from company management, buy-in and support from industrial collaborators, short-term results and impact on the industry, organizational stability (industry partner), commitment to contribute to the industry’s needs and prior experience of the industry-academia. However, [16] proposed broader general ideas on successful collaboration that typically involves support from political leaders, opinion-makers and others who control valuable resources and thus provide legitimacy to the collaborative initiative. Whilst, [17] argued that a successful performance relates to the collaborative process in which both parties should develop clear roles, policy guidelines and provide a structure for the collaborative process as well as sharing of ownership and responsibility [18].

According to [19], there are seven main categories of factors that form a basis for the collaboration model, which includes context, support, tasks, interaction processes, teams, individuals and overarching factors. The factors that constitute collaboration are relatively important and they could be used as a basis to assess the organization’s current and future
collaboration capability. The industry’s involvement in vocational education is in stark contrast to the numerous quality initiatives that urge providers to be more responsive to the demands of the industry.

Besides the factors that encourage collaboration, there are also issues and limitations in the collaboration process, as identified from the literature (e.g. [19; 20; 21; 22; 23; 24; 25]. The major barrier to collaboration is the inefficient communication between the participating institutions and the industry [26]. Communication contributes to the success of collaboration and ensures that these expectations and assumptions do not undermine the work. Good communication is essential to building trust that makes collaboration cohesive. Ineffective communication explained why some collaboration fail and some succeed during the collaborating process.

Ndudzo and Zinyama [27] found that insufficient reviewing mechanism along with the absence of mutual responsibility and commitment between both parties act as an obstacle to effective collaboration. In a collaboration, both parties should work together to move things forward and have equitable roles in decision-making. In addition, the different cultural backgrounds of both parties engaging in collaboration can also become a barrier on effective collaboration. These major barriers have been examined in several notable aspects in order to devise policies and provide suggestions to improve the efficiency of collaborations. They also stated that disclosure of the industry’s involvement could lead to stipulation for reports and additional instructions rather than support. These are among the reasons why people may not collaborate and get involved efficaciously. Rashidi [13] identified a serious lack of understanding between public training institutions, private industry institutions, private industry owners and the Department of Skill Development (DSD) as a barrier in collaborations. He related the finding with the lack of motivation for working together due to distinct interests and concluded that a poor collaboration between the industry and the institution would occur.

There have been numerous studies regarding collaboration with the industry in Malaysia [10; 6, 1; 11]. However, the gap related to vocational colleges still prevails. Thus, the purpose of this study was to explore particular interests in the possibility of forming collaborations between industrial companies and Vocational Colleges. Besides, this preliminary study intended to identify information that is relevant to the implementation of collaborations in Vocational colleges. Specifically, this study aimed:

i. To identify the needs for industrial collaboration in vocational college
ii. To identify factors that facilitate and inhibit industrial collaboration in Vocational college
iii. To identify the number of Memorandum of Understanding (MOU) and Letter of Intention (LIO) approved

2. Methodology

An inductive qualitative research approach was deployed in order to understand the importance of collaborating with the industry from the point of view of TVET institutions. Interviews were conducted to obtain information relevant to the implementation of collaborations with Vocational Colleges. Meticulous sampling was employed to select the interview participants from among vocational educators. Respondents involved were three administrators and three
lecturers who were directly responsible for forming collaborations between the industry and three Vocational Colleges. Each of these six respondents are qualified educators, have more than ten years of working experience and they all have more than three years of collaborative experience with industries. The administrators were involved in seeking approval for the programmes and in managing the resources in talent, experience, finances and infrastructure. The lecturers coordinated the collaborative programme and supervised the selected students in the respective skills during the programme.

Face-to-face interviews were conducted to obtain a deeper understanding regarding the collaboration between vocational colleges and the industry. Respondents were asked to describe their institution’s collaboration with industrial companies and also the factors that contributed to the willingness of companies to collaborate. In addition, this study sought to identify the barriers that inhibit the industrial collaboration. The interviewees were asked the following questions:

**RQ1:** Why do Vocational colleges need to collaborate with the industry?

The RQ1 is directly linked to the first objective and to compare and verify the reasons as described by other researchers.

**RQ2:** What are the collaboration programs that are being implemented?

The RQ2 seeks to get more details of the programmes implemented and justifies how these programmes are in line with expectations of the transformation programme. Thus it also addresses the first objective and complements RQ1.

**RQ3:** What are the factors that facilitate industrial collaboration?

**RQ4:** What are the barriers that inhibit industrial collaboration?

RQ3 and RQ4 are associated with the second objective as they enquire more about the strengths and weaknesses of the programmes that are highlighted in RQ2. These questions are pertinent in the research as they provide an insight from the respondents’ experiences and can be related with previous research.

**RQ5:** How many Memorandum of Understanding (MOU) and Letter of Intention (LOI) had been approved at the Vocational colleges?

RQ5 addresses the third objective of the research and is linked to RQ 2 as it is one of the procedures of a collaborative programme. Besides that, the impact of the MOU and LOI can further provide some information on a factor that can benefit or is an affliction to the collaborative process (RQ3 and RQ4).
3. Results

The summary of interview findings are shown in Table 4.1.

Table 4.1 Interview Findings

<table>
<thead>
<tr>
<th>RQ</th>
<th>Question</th>
<th>Findings</th>
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<tbody>
<tr>
<td>1</td>
<td>Why do Vocational Colleges need to collaborate with the industry?</td>
<td>1. To introduce vocational education Transformation to the industry and society; 2. Country’s economic transformation plan requires skilled manpower; 3. It is easy for students undergoing On-the-Job Training (OJT) and National Dual Training System (NDTS) to have hands-on practice in the industry in the future; 4. For transferring knowledge and new technology; 5. Students gain more experience in the workplace before entering the job market; 6. For sharing resources, expertise, facilities to develop highly skilled workers; 7. To enhance the theoretical knowledge learned at vocational colleges; 8. Students get more certificates and will be competent after completing industrial attachment and training 9. To enhance teachers and students’ competency in order to meet the industry’s requirement; 10. To obtain more funding for students and vocational college.</td>
</tr>
<tr>
<td>2</td>
<td>What kind of collaboration programs were implemented in Vocational College?</td>
<td>1. National Dual Training System (NDTS) 2. On-the-Job Training (OJT)</td>
</tr>
<tr>
<td>3</td>
<td>What are the factors that facilitate industrial collaboration?</td>
<td>1. The willingness of Small &amp; Medium Enterprises (SME) to collaborate with vocational colleges; 2. Parental involvement and cooperation with the college; 3. Encouragement by the Government; 4. Vocational college students’ competency has encouraged greater participation of the industry; 5. The industry requires a highly trained workforce with minimum supervision.</td>
</tr>
<tr>
<td>4</td>
<td>What are the obstacles that</td>
<td>1. Inflexible industry consent to collaborate; 2. Not all courses offered in vocational colleges are up for</td>
</tr>
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3. Discussions

The findings show that to prepare human resources for the ever-changing world of work, vocational colleges need to collaborate with the industry and the workplace. The need for practical hands-on training in the industry can be done by implementing the On-the-Job Training (OJT) and National Dual Training System (NDTS) as shown in the findings for the second research question. However, the process of obtaining approval for a Memorandum of Understanding (MOU) was an obstacle specified by these three Vocational colleges. The approval process from the legal adviser took a long to materialise. This issue corroborates with the data in the findings of the fifth research question. The MOU that was sent is not in line with the number returned by the legal adviser to the vocational colleges.

4. Conclusions

Vocational VET systems are facing a huge challenge in re-orientating their mission, purpose, and way of working to meet the requirements of employer responsiveness. Greater clarity in articulating the role and purpose of employer engagement would support a more coherent approach to target setting and make better use of employers as a strategic resource for learning. A major policy goal for many governments in their vocational education and training (VET) systems is to gain confidence in employers [30], and develop and prepare students so that they possess high levels of knowledge, skills and innovation before entering the job market. There are several reasons for forming collaborations between vocational colleges and the industry, such as introducing the
transformation in vocational education to society and the industry, sharing technology and resources, enable students to undergo On-the-Job Training sessions, obtaining certificates upon completion of training, to secure financial assistance and other kinds of supports. Holding discussions on a fair, successful, and long-term partnership requires mutual understanding among the institutions in relation to different assets, skills and expertise. In this respect, it would be useful for each party to demonstrate and document their expectations and terms of agreement in a memorandum of understanding or a similar kind of document. This particular document is useful for providing a "points-to-consider" guideline for partners in the academic and community research fields, for establishing and maintaining research partnerships during each level of the research process [31].

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References


